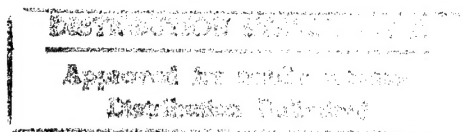


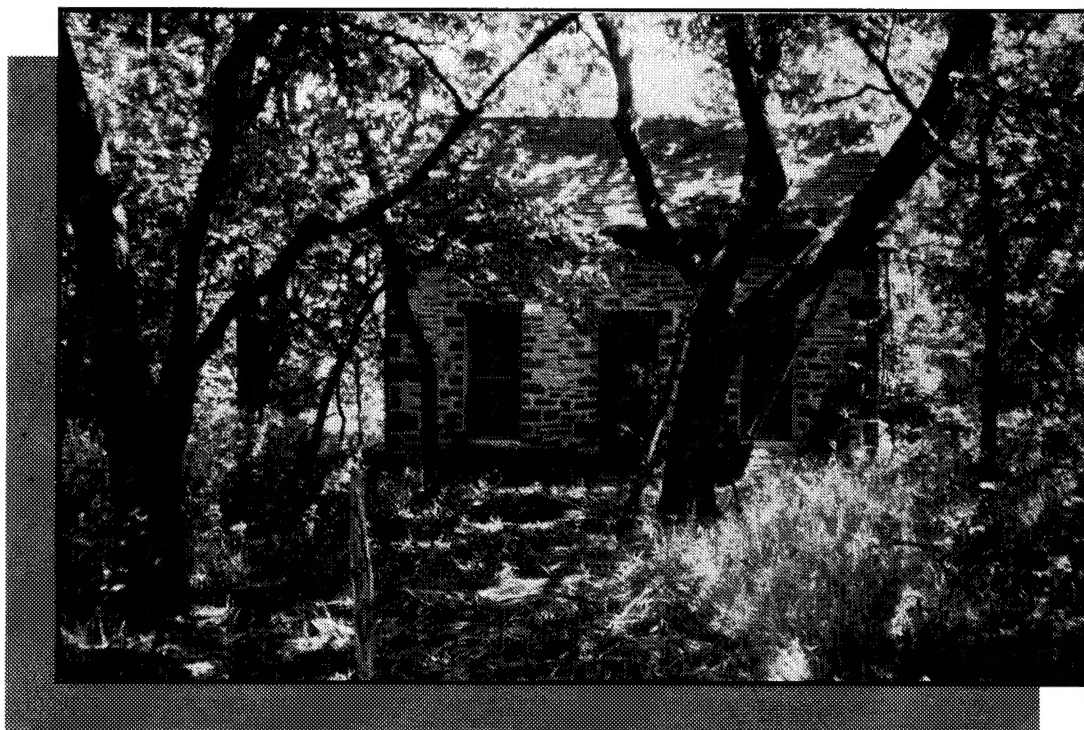


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Report of an Archaeological Survey at Melvern Lake, Lyon and Osage Counties, Kansas



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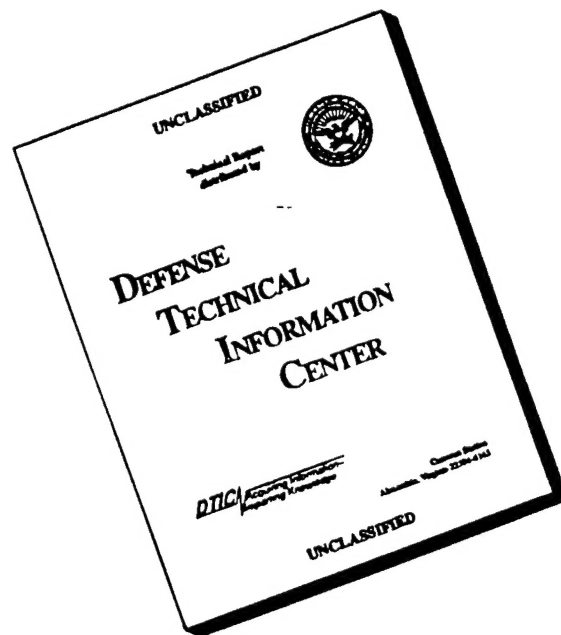
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**Michael A. Nash
Robert M. Rogers
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A Phase II cultural resources survey was conducted of three areas totaling 5400 acre within the Melvern Lake Project area in eastern central Kansas. The survey consisted of a 100 percent pedestrian survey of the area with limited subsurface investigation by shovel testing and augering. This survey resulted in the discovery of 22 previously unrecorded archaeological sites. This total includes 12 prehistoric sites, six historic sites, and four sites with both historic and prehistoric components. Two of the newly located sites, 14OS130 and 14OS135, are thought to be potentially eligible for the National Register of Historic Places.

Fourteen previously recorded sites which were within or near the project area were also investigated. They include 12 prehistoric sites, one site with both historic and prehistoric components and one site of undetermined temporal or cultural affiliation. Of these, ten were relocated by the investigation. Four of the previously recorded cultural resource sites including 14LY408, 14OS117, 14OS351, and 14OS403 are thought to be potentially eligible for the NRHP and NRHP eligibility has already been established for sites 14LY414, 14OS17, and 14LY118 by previous investigations.

Recommendations for NRHP eligible or potentially eligible sites include avoidance, further archaeological and/or historical investigations establish NRHP eligibility or mitigate adverse effect is avoidance is not feasible.



Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Document No. 940488
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**REPORT OF AN ARCHAEOLOGICAL
SURVEY AT MELVERN LAKE,
LYON AND OSAGE COUNTIES, KANSAS
DACW41-93-C-0040**

Prepared for:
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Federal Building
601 East 12th Street
Kansas City, Missouri 64106-2896

Prepared by:
Espey, Huston & Associates, Inc.
P.O. Box 519
Austin, Texas 78767

Principal Investigator and Primary Author:
Michael A. Nash

Contributing Authors:
Robert M. Rogers
Gregory Sundborg

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ESPEY, HUSTON & ASSOCIATES, INC.

The study performed herein by the Contractor for the Corps of Engineers is authorized in the National Historic Preservation Act of 1966, as amended. Accomplishment of this work provides documentation evidencing compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment: dated 13 May 1971, and Section 110 of the National Historic Preservation Act.

Funds for this investigation and report were provided by the U.S. Army Corps of Engineers. The Corps may not necessarily agree with the contents of this report in its entirety. The report reflects the professional views of the contractor who is responsible for collection of the data, analysis, conclusions and recommendations.

ABSTRACT

A Phase II cultural resources survey was conducted of three areas totaling 5400 acre within the Melvern Lake Project area. The survey consisted of a 100 percent pedestrian survey of the area with limited subsurface investigation by shovel testing and augering. This survey resulted in the discovery of 22 previously unrecorded archaeological sites. This total includes 12 prehistoric sites, six historic sites, and four sites with both historic and prehistoric components. Two of the newly located sites, 14OS130 and 14OS135, are thought to be potentially eligible for the National Register of Historic Places (NRHP).

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I: THE ARCHAEOLOGICAL INVESTIGATION:
PURPOSE, AND PREVIOUS INVESTIGATIONS

INTRODUCTION

In August and September 1993, Archaeologists from Espey, Huston & Associates, Inc. conducted a Phase II cultural resource survey of a 5,400-acre area within the U.S. Army Corps of Engineers, Kansas City District (COE-KC) Melvern Lake Project (Figure 1). The work was conducted in accordance with the Scope of Work and a research design completed by EH&A and approved by the COE-KC and the Kansas State Preservation Officer. Prior to the fieldwork, in May 1993, a records and literature search was conducted and its results are outlined in the Previous Investigations section below.

PURPOSE

The cultural resources investigation of the Melvern Lake Project area was designed to locate and provide a preliminary evaluation of historic or prehistoric cultural resources which are being, or may be in the future, adversely affected by activities of the Federal government. Identification and evaluation of cultural resources will enable managers to better preserve important resources.

PREVIOUS INVESTIGATIONS OF THE PROJECT

Prior to the development of the research design, a files search was conducted with the Kansas State Historical Society in Topeka. The following previous archaeological investigations have been conducted in the vicinity of the present survey area.

In 1957, the Kansas State Historical Society carried out a reconnaissance level survey of the proposed Melvern Lake area flood pool through an agreement with the National Park Service (Wilmeth 1958). Nine sites (14OS312-320) were located during the survey. All were recommended for testing.

In 1962, the University of Kansas carried out archaeological investigations under the authorization of the National Park Service and the Missouri River Basin Project of the Smithsonian Institution (Smith and Birkby 1962). Six previously recorded sites were relocated and recollected and four new sites (14OS1-4) were located. The survey affirmed that Archaic and Central Plains phase occupations were present in the area as well as probable Woodland occupations. Excavations were conducted at sites 14OS1, 14OS312, and 14OS314 (Moore et al. 1964).

During the summer of 1967, the University of Kansas conducted an archaeological survey of the proposed Melvern Lake project flood pool area supported by a contract with the National Park Service (Bradley 1968). Fifteen previously unrecorded sites were located (14OS1934). Of these, six were attributable to the Central Plains phase, two were attributable to the Plains Woodland phase (Early Ceramic), and one was attributable to a probable Archaic affiliation. Testing was conducted at eight of the fifteen sites. Excavation level investigations were conducted on two

previously recorded sites (14OS3 and 14OS312), and two sites (14OS23 and 14OS34) located during the survey.

In 1974, Susan Traub conducted a survey of the Melvern Lake project designed to augment previous research. Four survey areas were examined between the multi-purpose pool level and the flood pool (Traub in Aldenderfer 1980). Four archaeological sites, 14OS351-354 were located. Three of the sites were attributed to a possible Woodland (Early Ceramic) or Central Plains date. Testing was recommended for all four sites. Traub's survey was the first systematic survey within the present survey area in the western portion of the US Army Corps of Engineers (COE) Melvern Lake Project. All four of the located sites are located within the present survey area.

In 1974 and 1975, extensive archaeological investigations were conducted at site 14OS347 (Reynolds 1984). The site was located during the construction of US Highway 75, in the eastern part of the Melvern Lake area, east of the present survey area. Three intact components dating to the Archaic period, the Early Ceramic period, and the Middle Ceramic period were located. The site has been placed on the National Register of Historic Places (NRHP).

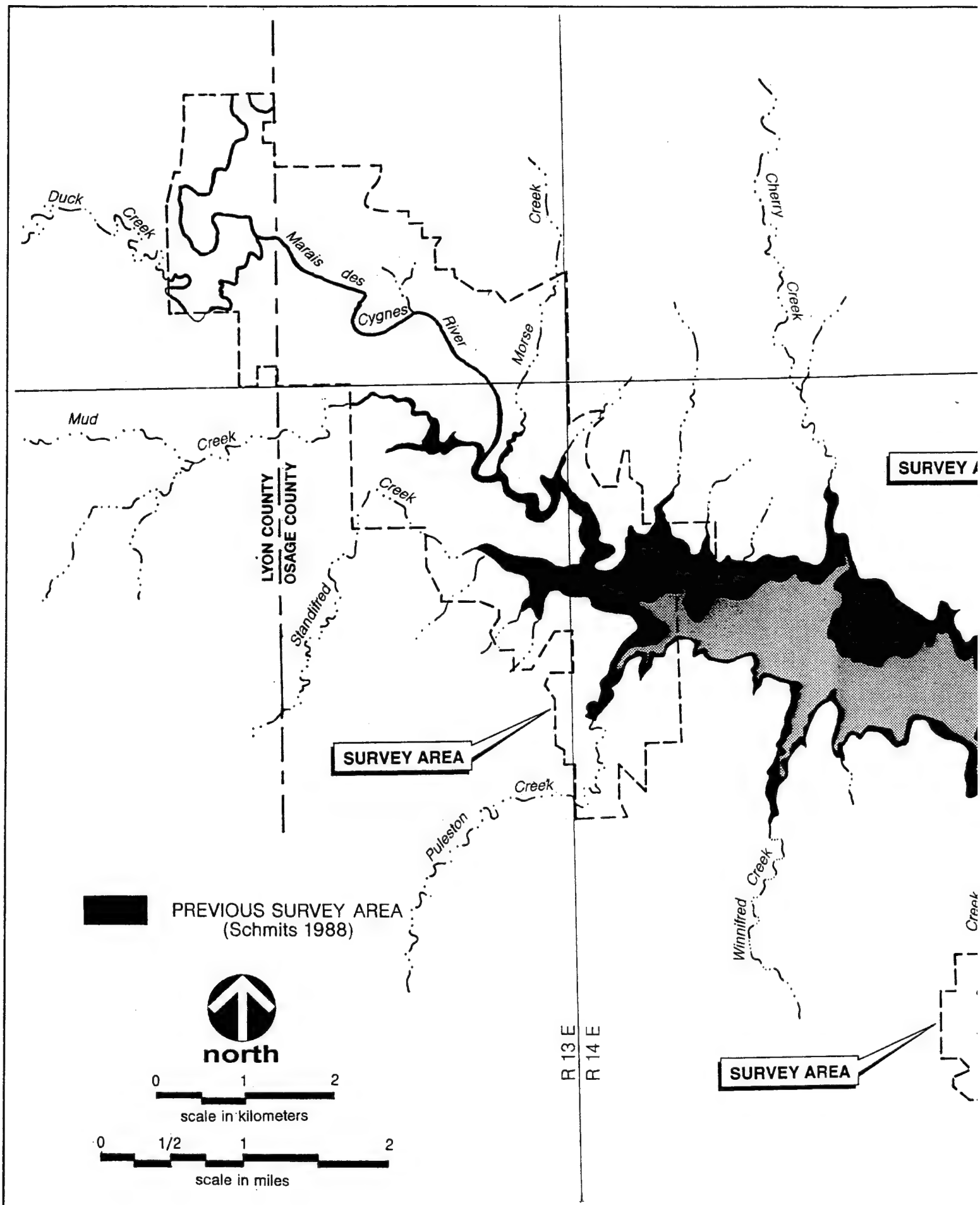
In 1980, Science Applications, Inc. prepared a preliminary cultural resources management plan for the Melvern Lake Project (Aldenderfer 1980). Among the recommendations, this plan called for a survey of all unsurveyed land within the Project with multi-level sampling being the recommended strategy.

In 1982, Environmental Systems Analysis, Inc. conducted an intensive survey at three COE lakes including Melvern Lake (Schmits 1988). The Melvern Lake survey consisted of an inventory of the shoreline between 1034 and 1042.3 feet above mean sea level as well as an approximate 25 percent sample of four public use areas. The total area surveyed was 4,628 acres (1,874 ha). Sixteen unrecorded sites were located including 11 sparse lithic scatters (14OS112-122), and five historic sites (14OS124-128). Two previously recorded sites (14OS352 and 14OS362) were also located by the survey. Four sites, 14LY414, 14OS117, 14OS118 and 14OS362 were thought to be potentially eligible for the NRHP. One site, 14OS128 was outside of the survey area and were not evaluated with regard to the NRHP. Of the located sites, three (14OS117, 14OS118, and 14OS352) are within the present survey area. In 1982-1984, four sites, 14OS17, 14OS362, 14LY414, and an unrecorded site, were tested in association with the project. Of these tested sites, 14OS17 and 14LY414 are within the present survey area and are considered eligible for the NRHP.

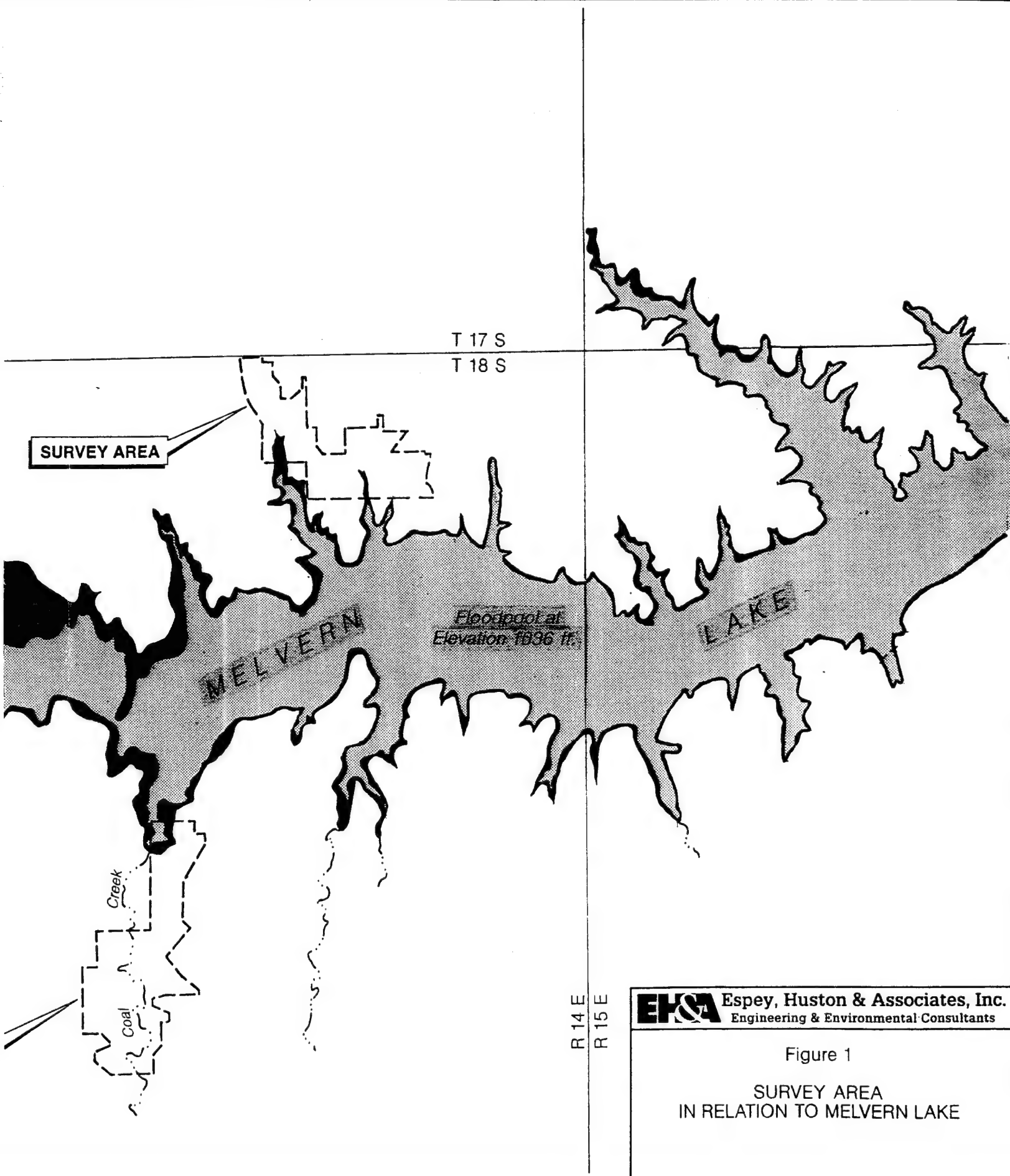
REPORT ORGANIZATION

This report is organized into six chapters. After this introduction, Chapter II details research goals of the project. The environmental situation of the survey area is described in Chapter III. Chapter IV provides a brief overview of the cultural history of the Melvern Lake region. The results of the investigation in terms of located cultural resources are described in Chapter V. Chapter VI provides a summary of findings. A list of cited references follows Chapter VI.

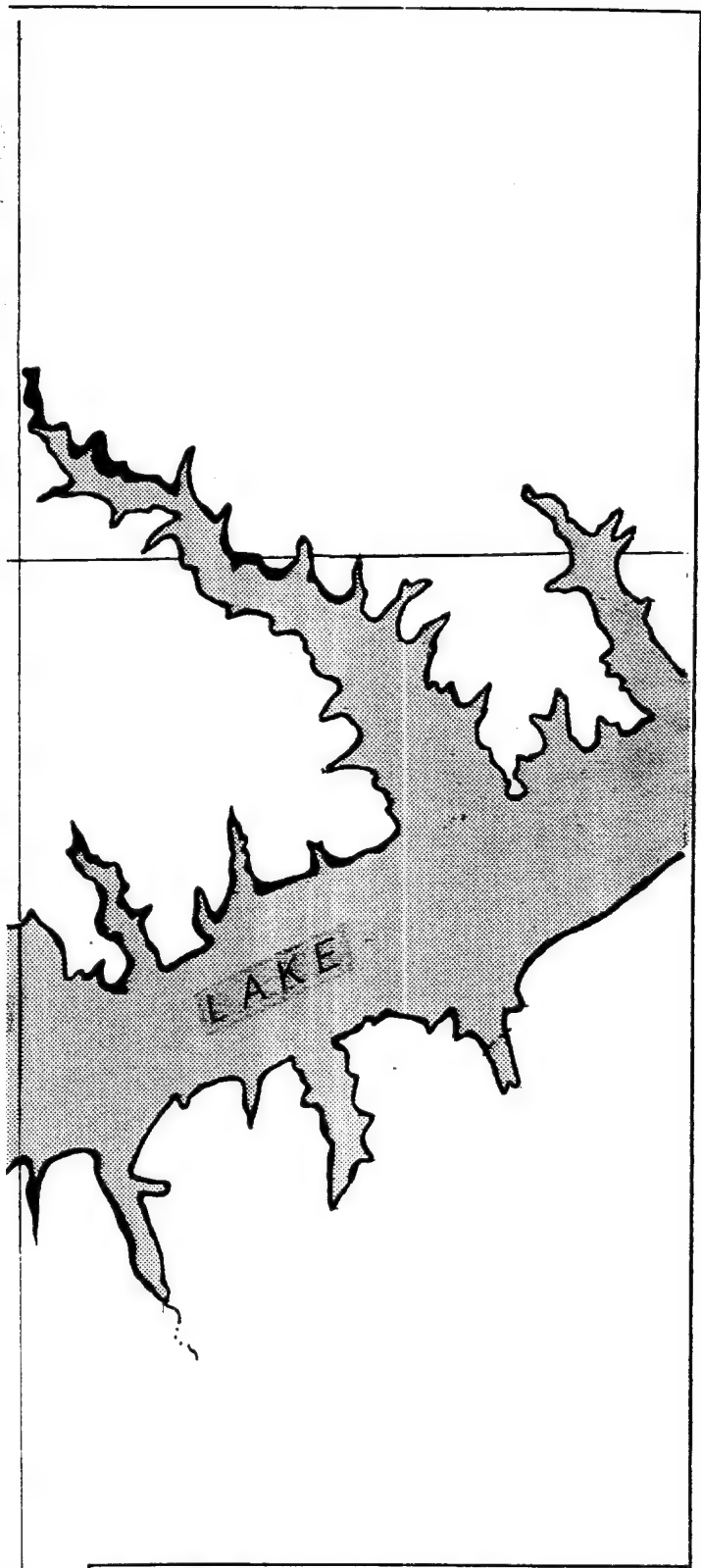
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Figure 1
SURVEY AREA
IN RELATION TO MELVERN LAKE

II: RESEARCH GOALS

RESEARCH DESIGN

This investigation was designed to locate and evaluate historic or prehistoric cultural resources which are presently being, or may be in the future, adversely affected by modern cultural activities. Although this investigation was conducted in compliance with federal legislation and is not "pure research" for research's sake, it is, nevertheless, intended to provide meaningful information for future researchers as well as the general public. Therefore, its goals were to locate and record archaeological and historical sites, as well as to fit these sites into an existing framework so as to permit an assessment of the potential importance of each site. In order to direct the research effort, this plan or research design was prepared.

The research design is a vehicle for integrating the field research, analyses and background research with a historical context and provides a focus for the integration of research. It is a detailed plan of the study's theoretical and substantive goals, and the methods to be used for its implementation.

McGimsey and Davis (1977:72-73) recognized four basic elements of a research design: 1) the purpose and reasons for the research and the methodological base of the approach; 2) the background information relative to the survey area; 3) the research goals and their rationale; and 4) the research strategy and its relationship to the research goals. Rabb (1977:168-171) identified five elements which are both hierarchical and logico-empirical in nature. These are 1) the theoretical basis of the research; 2) implications of previous research; 3) specific hypotheses to be tested; 4) test implications; and 5) data collection and analysis techniques. Rabb's structure, which combines both theoretical and empirical domains, allows this model to test general theoretical concepts and to apply to concrete empirical entities at the same time. It also adds the basic element of feedback to the model of McGimsey and Davis (1977).

Rabb's research model has three levels. The first is composed of the baseline information and theoretical background of the study. The second level contains both research hypotheses and hypotheses generated during the study. The last, composed of lists of test implications, data collection techniques and analytical techniques, is the operational component of his model (1977:170). The first and second levels are planning and review stages of the design. In practice, however, all aspects of research design are interrelated (Babbie 1986:71).

The current investigation generally follows Rabb's model. First, baseline information is presented which outlines the historic and prehistoric background of the study area. Secondly however, rather than developing a set of functional hypotheses, historical contexts are developed for predicting the types of sites and determining the potential significance of sites discovered during the survey. Finally, the methods of site identification and site recordation are presented.

HISTORICAL CONTEXT

A cultural resources investigation requires decisions concerning the criteria for site evaluation and the basic elements of a plan for the treatment of significant properties. The organizational framework that facilitates this decision-making process is the historical context (48 FR 44717). According to the Secretary of the Interior's Standards and Guidelines (48 FR 44739), historic context is a planning unit that "groups information about historic properties based on a shared theme, specific time period and geographical area."

Historic contexts apply to both historic and prehistoric sites. They are developed to provide a basis from which archaeological and historical sites can be evaluated by identifying patterns or research problems in the historical and prehistorical record. The basic steps to the development of an historic context are: 1) the identification of the chronological period and geographical areas of each context; 2) the assimilation of existing information through literature and background searches; 3) the identification of trends in settlement, architecture, art, etc., research values and cultural values; 4) definition of property or site types by characteristics of each type; and 5) the identification of gaps in the body of information concerning historic contexts (48 FR 44717-44719). This last step leads toward an evaluation of National Register eligibility of each site according to the defined contexts, or for the need to establish new contexts.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, it is necessary to assess cultural resources in terms of their potential for eligibility for the NRHP. The criteria of the National Register, as presented in 36 CFR 60.4, are as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

- a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b. that are associated with the lives of persons significant in our past; or
- c. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. that have yielded, or may be likely to yield, information important in prehistory or history.

It is these criteria that recognize that a site, building, etc. may be significant because it represents a particular period of American history or because of its potential to contribute to the existing body of information in a particular area. While National Register survey activities must

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include properties representing all aspects of the historic context, the evaluation process uses the historic context as a framework to identify data deficits, which serve as the criteria for evaluation. However, decisions about the treatment of properties must consider the range of properties within a given context (48 FR 44718), not just the "typical" property.

Certain historic properties are not normally considered eligible for inclusion to the NRHP. Such properties include:

- cemeteries, birth places or graves of historic people;
- religious properties, or properties of a commemorative nature;
- properties that have undergone reconstruction or relocation;
- properties less than 50 years old.

Prehistoric Sites Context

Although modern societies possess the technology to shape or alter the environment to suit their needs, the distribution of resources was a primary impetus in site selection among aboriginal groups. Resources associated with site selection for prehistoric sites include items that supply the nutritive needs of the population: materials for tool making, shelter, soil conditions for drainage, and view for both watching the movements of game animals and for defense (Jochim 1976:49-52). During later prehistoric and historic times, environmental factors such as soil fertility and drainage were important factors in site selection. Transportation routes were often an important consideration in the selection of historic settlement locations.

Settlement patterns can be defined as "the way in which man disposed himself over the landscape in which he lived" (Willey 1953). This refers to the arrangement of individual dwellings and to the nature and placement of other buildings associated with settlement. Beardsley et al. (1956) described a "central-based wandering" model to explore the relationship of base camps to extractive sites among hunter-gatherers; however, in the case of aboriginal groups of the coastal plain, the abundant harvest of varied food resources provided a routine and reliable subsistence base. According to Lee and DeVore, this "routine and reliable food base appears to be a common feature among modern hunter-gatherers" (1968:6). Historic settlement patterns may be clustered or grouped within rural communities, may be linear, may string along the courses of rivers or roads, may assume a grid plan such as many of the towns, or may be disbursed across the rural landscape (Spencer and Thomas 1973:96). The settlement system can be viewed as the patterning of behavior as a result of solutions to economic problems (Jochim 1976:11). Even though definitive settlement analysis requires substantially more data than can be provided by survey projects, initial pattern recognition must begin with the survey level of site identification in a region. Even the smallest of sites takes on a measure of significance when observed from an overall settlement system perspective. The prehistoric sites context is directly related to this settlement system on the environs of the coastal plain. Prehistoric contexts are divided chronologically along lines of resource utilization and material culture.

Paleo-Indian and Archaic Periods

Subsistence in the Great Plains region during the Paleo-Indian and Archaic periods relied on hunting and gathering. A simplified model of hunter-gatherer settlement assumes that societies were primarily characterized by a band-level social organization (Jochim 1976, Yellen 1977). At this level of society, the process of acquiring food throughout the year required a settlement system involving at least some seasonal movements, corresponding to the seasonal availability of the plants and animals. Settlement during the Paleo-Indian and Archaic periods probably involved the occupation of relatively large regions by single band-sized groups, living in base camps. During the course of a year, a group may have dispersed and merged as necessary in the process of resource procurement, creating smaller microband units, possibly consisting of no more than a single family. Expected site types would probably consist of base camps, smaller short-term campsites, and specialized activity locations associated with resource procurement such as butchering, retooling, plant processing, and lithic procurement if any lithic raw material sources are available in the survey area.

Ceramic Periods

With the development of more sedentary settlement-subsistence systems culminating in the Middle Ceramic period, permanent habitation sites gradually replaced base-camp type habitation sites more characteristic of the previous non-sedentary adaptations. It can be inferred that, in addition to the band and microband base camps, short-term campsites, and specialized activity sites established in the day-to-day procurement of food and other resources, sites of this period may also include larger, permanent or semi-permanent settlements. Later in this period, proximity to agricultural fields was a more important factor in site selection. Locations used partially or largely for ceremonial or burial purposes were also present in the Ceramic periods, usually in association with or in proximity to habitation sites. No sites with burial or ceremonial activities as a primary function have been located, however, burial components have been found within Ceramic period sites.

During previous investigations in the Melvern Lake region, common site types included small habitation sites, short-term camp sites, and specialized activity sites for short-term resource procurement or associated activities. Their representation in the archaeological record is often spatially small and/or artifactually sparse and exhibits great topographic diversity. Habitation sites typically occur in association with major and minor permanent drainages.

Historic Sites Context

The following discussions of the historic sites context is based on culture history periods of Kansas as identified in the *Kansas Preservation Plan* (Lees 1989). A discussion of each period includes a brief discussion of relevant site types and criteria of significance for sites of that period which might be identified by this survey.

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Exploration and Contact with Native Kansans (1541-1820)

Excepting possible posts for trade with aboriginal groups, the potential for non-aboriginal sites in Kansas is very low. No sites, either aboriginal or Euro-American, dating to this period have been found within or near the survey area and such sites are typically quite sparse in this region of Kansas. Euro-American sites are expected to be very rare in the survey area, and such an unprecedented occurrence would probably be afforded singular significance for the contribution it could make to an understanding of Kansas's early history.

Exploration and Settlement (1820-1865)

Significant settlement of reservationed Indian groups occurred throughout many parts of the state in the 1820s and 1830s, and settlement of Euro-Americans followed in the 1840s and 1850s, although no large-scale settlement in the survey area vicinity is thought to have occurred during this period. As the survey area was part of the Sac and Fox Reservation from 1846 until 1867 and may have been utilized for foraging by other reservation Indians prior to that time, the most probable site type would probably be ephemeral resource procurement sites of reservation Indians groups. No sites relating to Civil War industries or large troop emplacements or engagements are known to exist in the survey area.

With a few notable exceptions, architecture of this period tended to be impermanent and informal. The impermanent nature of the architecture in this period did not lend itself to lasting preservation, nor did it inspire contemporary chroniclers to commit it to record. Sites are expected to be rare in the survey area, and as such, would probably be afforded singular significance for the contribution they could make to an understanding of Kansas' early history.

Period of Rural and Agricultural Dominance (1865-1900)

The period following the Civil War saw the transformation of Kansas from a developing frontier to an agricultural economy. Site types would most likely be small farmsteads or agricultural activity areas, although small agricultural industry sites such as mills are also possible. It is also possible that sites associated with remnant groups from former reservations in the area may be located. Cultural resources of this period are common and generally unremarkable with regard to the NRHP. Numerous houses and historic properties of the period exist in Kansas, and many have been included on the NRHP. Because of the large number of existing historic structures and sites dating to this period, eligibility for the National Register can be judged more on architectural or historical uniqueness, or archaeological potential, than on mere survival, as is often the case with earlier properties. With regard to archaeological sites of these periods, each would probably need to be considered on an individual basis to determine their potential for the NRHP, based on the uniqueness of the site and integrity of deposits.

Time of Contrasts (1900-1939) and The Recent Past (1939-present)

In east-central Kansas during this period, agriculture continued to be the primary industry to the present day. In rural riverine areas such as where the present project is located, site

types are those typically associated with small residences or farmsteads. In evaluating cultural resources of these types from this period, structures are relatively common in Kansas and generally unremarkable, and in few instances would these be considered NRHP eligible unless there is some significant historical event or some unique architectural feature associated with the site. With regard to archaeological components of these periods, each would probably need to be considered on an individual basis to determine their potential for the NRHP, based on the uniqueness of the site and integrity of deposits. However, as many domestic structures exist from these periods, it is very unlikely that the sites representing remains of similar structures would be able to contribute significantly to our knowledge of domestic lifeways of these periods.

TEST IMPLICATIONS AND RESEARCH QUESTIONS

A Predictive Model of Site Location

As a preliminary tool to aid in the formulation of the investigative methodology, it was necessary to review past investigations in the project vicinity and the region to identify variables which may exhibit a direct or inverse relationship with the probability for the occurrence cultural resources. The most easily discernible variables are those related to topographic conditions.

Within the region, it has been established through extensive previous investigations that a much higher probability for the location of both prehistoric and historic sites exists in certain areas. Proximity to a water source appears to have been a primary criterion in the site selection process for most types of prehistoric sites except some very ephemeral resource procurement locals (e.g., lithic quarry sites) and ancillary activity areas related to larger sites. Small seasonal or ephemeral camps are typically located on natural levees adjacent to permanent or seasonal drainages or nearby points of higher elevation such as small knolls along the floodplain or promontories overlooking floodplains. Larger more permanent habitation sites occur in these locales, but also tend to occur at the lateral margins of valley floors.

Historic habitation sites are much more likely to be located along level or gently sloping ridge crests in the foothills at the edges of valleys, based on previous investigations. Proximity to historic roads or railway routes also appears to be a common criteria of historic site selection in most areas. Roads typically coincided with section and quarter-section lines. Sites associated with railway routes in rural areas can normally be related to track construction, but may represent water or fuel stops or small shipping/receiving points.

In terms for potential for buried cultural resources, the soils of the survey area can be generally evaluated by using their approximate period of formation. The most recent soils in the survey area are those of the Verdigris series (identified as Ivan soils in Lyons County), occupying the historically recognized Marais des Cygnes floodplain prior to construction of Melvern Lake (USDA-SCS 1981, 1985). On the next higher terrace, but still part of the recognized floodplain complex defined by O'Conner (1953, 1955) are Osage soils, generally dating to the middle Holocene. The delineation between the Verdigris and Osage terraces is generally indistinguishable on the basis of elevation using standard USGS topographic maps of the area exhibiting a 10-foot contour interval. Soils of the uplands above the floodplain include Woodson soils dating to the late Pleistocene, and

older Tertiary types including the Kenoma, Olpe, Claeson-Eram, Lula, and Summit soils (Schmits 1988:34).

Thus, the greatest potential for buried cultural resources probably exist on areas of Verdigris soils, where even historic sites may be covered by alluvium. The Cow-Killer Site (Reynolds 1984) is situated primarily in an area of Verdigris soils. Most Verdigris soils along the Marais des Cygnes River above the Melvern Lake dam were inundated by the creation of the lake, but some narrow strips are present along the river and its major tributaries. On areas of Osage soils, which occupy approximately 60 percent of the survey area, early sites may be buried, but more recent sites would probably occur on the surface or within the plowzone.

In areas of upland soils, primarily Kenoma silt loam, only very limited deposition has occurred throughout the period of human occupation in the New World. Cultural sites would almost always occur on the surface or in the plowzone, and, except in discrete fluvial situations, there is no potential for deeply buried cultural deposits.

Research Questions

Most identified gaps in archaeological knowledge cannot realistically be addressed in an investigation having a survey level of intensity with previously established topographic and geographic parameters. However, some general research questions can be generated. These questions were devised to drive the current investigation toward problems pertinent to the study area.

- 1) Was the predictive model accurate (i.e., do locales suggestive of high or low site potential actually exhibit comparable frequencies of sites when examined by archaeological survey)? Also, what other factors can be identified which determine site location?
- 2) Was the current level of investigation adequate to locate specific activity sites which may have a small representation in the archaeological record?
- 3) Could site types have been identified without more intense investigation?
- 4) Can site types be correlated with particular topographic variables?
- 5) What catchment areas were required to support different types and sizes of sites?

METHODOLOGY

A Phase II investigation was conducted of the study area, as is normally required for all federally funded or permitted studies in Kansas. A Phase II investigation involves an archival search and field survey to determine the nature and extent of cultural resources present within a specifically defined area.

Literature Review/Records Search

Prior to the initiation of fieldwork, a literature review and records search were conducted in order to compile a data base pertaining to the project vicinity. Literature pertaining to the prehistory and history of the area was obtained from the Kansas City COE, the Kansas State Historical Society, EH&A's in-house cultural resources library, and the University of Texas Library, which provided general information on Kansas history and prehistory and on the physiography and topography of the survey vicinity. Site files, site location quadrangle maps, General Land Office (GLO) plats, and other historic maps archived at the Kansas State Historical Society were also reviewed.

Site Location and Recordation

The specifications of the study require that an intensive field inventory be conducted to locate cultural resources. This essentially requires a total coverage of the study area in order to locate and preliminarily evaluate all cultural resources, with regard to eligibility for the NRHP and with regard to possible future impacts against the cultural resource base.

An archaeological field survey is a study that focuses on a spatial area with the goal of locating all or a sample of the sites within it (McManamon 1984:225). According to Plog et al. (1978:383), the relative importance of the archaeological survey as a field technique approaches that of controlled excavation, however, the functions of these two data-gathering devices are very different. The survey primarily looks at areal patterns with an emphasis on site discovery and recognition, while excavation allows a focus upon a single cultural component.

The primary method of survey exploration is a line of pedestrian archaeological surveyors, spaced at set intervals and moving along parallel transects. The effectiveness of site location and evaluation is affected by site visibility and obtrusiveness, as well as the intensity of inspection. Site visibility may be defined as the extent to which a site has been buried by sediment or covered by vegetation. Site obtrusiveness refers to the site's ease of detection (Schiffer et al. 1978:6-7). The term "intensity" is used in this context to refer to the degree of detail with which a given area is inspected, or, more accurately, the spacing between crew members (Plog et al. 1978:390-392). When deciding on the most effective intensity of inspection, it is necessary to take into consideration both the anticipated visibility and obtrusiveness of archaeological sites, based on the nature and distribution of known cultural resources within the region.

The cultural resources survey of the proposed project was conducted by a crew of two to five archaeologists. The crew size typically consisted of five individuals. However, on occasion, it operated with only four individuals and at times split into two crews of two and three individuals when the size and configuration of individual survey areas (i.e., fields), the density of undergrowth, and various logistical requirements made a smaller crew size more effective. Each crew member was equipped with a shovel, backpack, a trowel, a hand-held 1/4-inch (6.3-millimeter (mm)) mesh screen, EH&A shovel test forms, specimen bags, a compass, a notebook, and a map of the area being surveyed, plotted on an enlarged copy of a USGS topographic quadrangle. Additionally, each survey crew was equipped with three 35-mm cameras containing color print, color slide, and black-and-white

film, specimen bags, and Kansas State Historical Society Archaeological Site Forms. A survey crew was under the direct supervision of either the Principal Investigator or the Field Archaeologist at all times.

Sites are typically located by two methods: 1) surface examination, and 2) shovel testing. Generally, surface examination was most effective in the identification of surface and shallow subsurface sites where cultural remains are visible on the ground. An intensive visual inspection of the ground surface was the primary locational technique in all areas where vegetation does not obscure surface visibility. Pedestrian transect surveys were conducted by a crew of two to five surveyors spaced at approximately 35-meter (m) intervals between transects regardless of surface visibility. The ground surface was inspected along survey intervals with particular attention to cutbanks, roadcuts, or other areas of extensive surface or subsurface exposure. Additionally, a program of shovel testing was implemented in all survey areas to locate cultural resources obscured by ground vegetation or covered by soil deposits. In areas of poor ground visibility (i.e., less than 25 percent), the distance between shovel tests along pedestrian transects were approximately 25 m. In areas with ground visibility exceeding 25 percent, shovel tests were placed judgmentally in numbers appropriate to adequately investigate the surveyed area. This density of shovel tests ranged from a spacing of approximately every 35 m in areas of vegetation cover approaching 75 percent or areas of noticeable alluvium due to recent flooding to a spacing of approximately 300 m in areas of high ground visibility and low potential for buried cultural deposits (e.g., Pleistocene-aged uplands), based on the predictive model of site location presented above. Additionally, when discrete areas of perceived greater site potential were encountered by the survey crew, such areas were more intensively examined with shovel tests at intervals of approximately 25 m, despite the predicted potential for buried cultural deposits or the degree of surface visibility.

Shovel tests were approximately 30 centimeter (cm) in diameter, and were excavated to a minimum depth of 40 cm. If subsurface cultural material were present, shovel tests were excavated until sterile substrates were encountered. Vertical control of shovel tests was maintained in approximately 10-cm levels. All soil recovered from tests was sifted through hardware cloth unless the matrix was dominated by clay, in which case the soil was visually inspected for artifacts. General information concerning the depth and nature of natural deposits in an area as encountered in shovel tests or observed in cutbanks or road cuts was noted on survey maps. All culturally positive shovel tests as well as judgmentally selected shovel tests representing typical soil conditions throughout the survey area were formally recorded on EH&A shovel test forms. Data recorded on these forms included information on vegetation, micro-topographic situation, and stratigraphy, including soil smears. All shovel tests were backfilled upon completion.

All located cultural resources more than 50 years old were designated to one of two categories, sites or isolated finds. Generally, a cultural site is considered to be the location of a prehistoric or historic occupation or activity, a building or structure, whether extant, ruined, or removed, or the location of a significant event, where the location itself maintains an historical or archaeological value regardless of the value of any existing structure (Derry et al. 1977). For the purpose of this investigation, a site was defined as a cultural resource in which one or more of the following conditions apply:

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- 1) five or more artifacts were located, or
- 2) one or more temporally diagnostic prehistoric artifacts were located, or
- 3) one or more intact, or partially intact cultural features were located, or
- 4) the resource was thought to warrant recordation as a site, in the opinion of the field recorder, despite failing to meet any of the three previous conditions.

All sites were recorded on KSHS Archeological Site Forms. Following completion of the fieldwork, Smithsonian trinomial numbers were obtained from the KSHS for each site and site forms and location maps were provided to the KSHS. Isolated finds were recorded on EH&A Isolated Artifact Recordation Form.

When a cultural resource was located, several field procedures were enacted. Initially, pedestrian transects were conducted at 5-m intervals to determine the horizontal extent, nature, and distribution of surface cultural material. Next, a program of shovel tests was conducted to investigate the location's potential for intact subsurface cultural remains and define the vertical and horizontal extent of the site's subsurface cultural component. The number and location of shovel tests placed on a site varied, depending upon site size, surface manifestation, degree of disturbance, and other variables unique to a given setting. Typically, transects were established in the four cardinal directions or variations thereof radiating from the approximate site center and shovel tests were conducted along these cardinal baselines at approximate 5-, 10-, or 20-m intervals depending on the site size. Additionally, larger excavation units (50- x 100-cm in size) were utilized in investigating the subsurface potential of three sites. In each site, two 50- x 100-cm excavation units were conducted for a total area of one m².

As archaeological sites vary significantly, the collection strategy for surface artifacts was site-specific and dependent upon the density and nature of artifacts present. Generally, all temporally diagnostic lithic artifacts and a representative sample of other observed artifactual and material types from the surface were collected. Additionally, all cultural material recovered from shovel tests or excavation units was collected.

A scale drawing of each site was made using a hand compass and taped or paced measurements, indicating the horizontal and vertical extent of each site and the location of any temporally diagnostic lithic artifacts or features, as well as major artifact concentrations relative to landmarks and site boundaries. Site forms were filled out for each site, to include data on prevalent vegetational types, topography, nearby water sources, turbative (i.e., disturbing) agents, artifacts observed, and other site data deemed appropriate. At a minimum, one black and white and one color photo was taken of each site showing the general surface conditions, as well as sufficient local landmarks so that the site can be relocated with confidence. All sites and isolated finds were plotted on survey area maps.

The final phase of the fieldwork consisted of a brief geomorphological reconnaissance of the study area. EH&A's staff geomorphologist evaluated prehistoric sites and selected locations

thought to exhibit a high potential for deeply buried cultural deposits, based on soil types, topographic conditions, and depositional situations. This was accomplished through the examination of eroded surfaces and shovel tests, as well as limited augering.

Laboratory and Analytical Methods

All recovered cultural material was returned to EH&A's laboratory in Austin, Texas for processing and analysis. Processing of non-organic remains included washing, drying and cataloging by provenience in compliance with KSHS requirements.

Lithic tools were analyzed for typological attributes, methods of manufacture, type of raw material, and possible function. Diagnostic projectile points were classified typologically whenever possible and the information was used in an attempt to identify age and cultural affiliation. Analysis of lithic debitage was limited to classification based on the material type and degree of cortex remaining on the dorsal surface.

Artifacts of historic origin received appropriately detailed analysis. All artifacts and other material, such as field notes and photographs generated by this project, will be submitted to a permanent curation facility at the conclusion of the project.

III: THE ENVIRONMENTAL CONTEXT OF THE STUDY

PHYSIOGRAPHY AND TOPOGRAPHY

The survey area is located within the Central Lowland physiographic province in the eastern third of the state. More specifically, it is located within the Osage Cuestas physiographic region of the Central Lowland as defined by Mandel (1987), occupying the southeastern part of the state. The Osage Cuestas is generally characterized by northeast-southwest trending cuestas. These cuestas are formed by differential erosion of limestone and shale bedrock. The limestone and shale are deposits of upper Pennsylvanian and lower Permian age which have become west dipping. The shale layers tend to erode more rapidly than the limestone forming the characteristic cuestas.

The survey area is situated along the upper reaches of the Marais des Cygnes River, east of the city of Emporia, on a broad plain, predominantly within the Holocene Marais des Cygnes floodplain which is characterized by nearly level terrain dissected by deeply entrenched seasonal and small perennial streams. Surface features of the survey area include levees of the river systems and man-made levees associated with the Marais des Cygnes and its major tributaries. The survey area exhibits approximately 20 meter (m) of natural topographic relief.

CLIMATE

The climate is classified as moist subhumid (Thornthwaite 1948). It can be generally characterized as continental (i.e., commonly exhibiting rapid climatic changes and large variance in intra-seasonal and annual temperature relative to other North American means). The survey area vicinity exhibits a mean annual temperature ranging from 6.4° Celsius (C) to 19.6° C, averaging 13.1° C. The mean annual precipitation ranges from 62.8 centimeters (cm) to 112.5 cm, averaging 90.2 cm with approximately 70 percent of the annual rainfall falling in April through September. The average growing season is approximately 182 days (USDA-SCS 1985).

STRUCTURAL GEOLOGY AND SOILS

Lying within the Osage Cuestas physiographic region, the topography of the survey area reflects differential erosion of the underlying Pennsylvanian and Permian age shale and limestone and is characterized gently rolling terrain, with valleys and escarpments with moderate to steep slopes adjacent to the valley of the Marais des Cygnes River and its tributaries (Mandel and Schmits 1988:31). These streams have been responsible for the alluvial deposits which comprise the primary geomorphological expression of the survey area. O'Conner (1955) subdivided these deposits into a floodplain complex (composed of the modern floodplain and low terrace), and a sequence of older terrace remnants, which occur along valley walls and upland slopes, 3 to 5 m above the modern floodplain. Mandel and Schmits (1988:36-37) note that while no radiocarbon dates are available for the sediments of the Marais des Cygnes River valley, alluvial chronologies have been established for adjacent regions that can be used to reconstruct Holocene and late Pleistocene depositional sequences. They note that a major fluvial-geomorphic discontinuity occurred between about 1,000 and 2,000 years ago and the general synchronicity of aggradation, stability and degradation within the region was apparently climatically induced.

An understanding of the soils which developed in the various landforms present in the survey area is important in assessing its archaeological potential, as they comprise the matrix which can potentially harbor such remains. The following discussion describes the origin, physical properties and characteristics of the soils mapped in the area, and is intended to provide such an interpretive framework.

Upland Soils

Soils of the uplands above Melvern Lake developed from parental material of late Tertiary and Pleistocene age. This material included limestone, shale, loess and old alluvium, and is typically encountered in the subsurface at depths of less than 150 cm. While deeply buried archaeological deposits are thus unlikely to be encountered, these upland soils are capable of harboring a full range of cultural materials, from Paleo-Indian times through Historic Euroamerican.

Kenoma Silt Loam

Kenoma soils are deep, moderately well drained and very slowly permeable soils found in uplands. Taxonomically, they are classified as Vertic Argiustolls and formed in clayey materials weathered from a mixture of loess and bedrock derived colluvium, shale or limestone (Mandel and Schmits 1988:34; USDA SCS 1985:51). They occur on disconnected high terraces of Tertiary age. In a typical profile they consist of a very dark grayish brown silt loam A horizon, underlain by very dark grayish brown to dark brown Bt horizons, and a mottled light olive brown and light yellowish brown silty clay BC horizon. Shale or limestone bedrock is often encountered at depths of about 100 cm.

Olpe Silty Clay Loam

These are deep, well drained and slowly permeable upland soils taxonomically classified as Typic Paleudolls. They share a common origin with soils of the Kenoma series, and are also commonly found on Tertiary terraces. In a typical profile they have a very dark brown silty clay A horizon, underlain by very dark brown gravelly silty clay loam AB horizon. The argillic horizons are dark reddish brown and yellowish red silty clay, and typically occur at depths of about 50 cm.

Clareson-Eram Complex

The upland soils are moderately sloping and strongly sloping deep soils found on the convex summits and sideslopes of ridges. Clareson soils are well drained and occupy steeper slopes, while Eram soils are moderately well drained and are found on lower side slopes. Clareson soils are taxonomically classified as Typic Argiudolls, while Eram soils are classified as Aguic Argiudolls. Both are formed from limestone or shale parental material. Typically Clareson soils have a very dark brown silty clay loam A horizon underlain by a dark reddish brown silty clay loam Bt horizon. Bedrock is usually encountered at about 60 cm. Eram soils have a very dark grayish brown silty clay loam A horizon underlain by mottled very dark grayish brown and dark grayish brown silty clay Bt horizons. Bedrock is typically encountered at about 70 cm.

Summit Silty Clay Loam

These upland soils are generally found on lower slope components. They are moderately well drained and deep, and formed in material weathered from Tertiary age shale. They are classified as Vertic Argiudolls, and are characterized by having a black silty clay loam mineral or A horizon, underlain by very dark gray and grayish brown argillic horizons, which can extend to a depth of 150 cm.

Woodson Silt Loam

Woodson soils are deep, somewhat poorly drained soils found on broad ridge summits and high terraces. Taxonomically, they are classified as Abruptic Argiaquolls, and are polygenetic in origin, having formed in loess near the surface and in colluvium at depths below about 25 cm. On low benches, it was formed in Pleistocene alluvium (Mandel and Schmits 1988:34). In typical profile Woodson soils have a black silt loam mineral horizon, while the subsoil has an upper part characterized by a mottled very dark gray, black and dark grayish brown silty clay and a lower mottled grayish brown and reddish brown clay.

Floodplain Soils

Soils of four series have been mapped in the floodplains of the survey area: Verdigris silt loam, Osage silty clay, Chase silt loam and Reading silt loam. Mandel and Schmits (1988:34-35) note that the while only Osage soils are mapped in the Marais des Cygnes floodplain in Osage County, it is likely that they compose the a low lying T-1 terrace while the Verdigris soils compose the modern floodplain or T-0 terrace. However, differentiating between the two is not feasible given the available topographic mapping interval (5 and 10 ft). In Lyons County the Ivan soils correspond to the Verdigris, and are thus not described separately. The remaining soils (Chase silt loam and Reading silt loam), are found on T-1 terraces.

All of the floodplain soils are important archaeologically. The Verdigris soils could contain materials up to 2,500 years old, while the Osage soils (and presumably Chase and Reading soils) are capable of yielding Archaic and older materials at various depths.

Verdigris Silt Loam

This floodplain soil is deep, nearly level and well drained. Taxonomically, it is classified as a Cumulic Hapludoll. Within the survey area, it occupies portions of the floodplain or T-0 terrace of the Marais des Cygnes River and its various tributaries. Typically, the soil has a very dark grayish brown silt loam surface layer underlain by a very dark grayish brown and dark brown silt loam or silty clay loam subsurface. The thickness of the solum ranges from 60 to over 150 cm in thickness. In Lyon County, this soil unit is mapped as Ivan silt loam.

Osage Silty Clay

Soils of the Osage series are deep, poorly drained and very slowly permeable soils which are found in the floodplain of the Marais des Cygnes River. They are taxonomically classified as Vertic Haplaquolls, and in a typical profile are characterized by very dark gray silty clay A horizon, underlain by black and dark gray gleyed B horizons. The solum is greater than 100 cm in thickness. Osage soils are subject to cracking during the dry months because of the shrinkage of clays. The resulting subsurface developments include the presence of slickensides, and it is this action that gives the soil its Vertisol subgroup classification.

Chase Silty Clay Loam

This well drained soil occurs on low stream terraces and formed in parental material derived from calcareous shale. Topographically, Chase soils usually are found midway between Reading and Osage soils. They are characterized by a dark gray silty clay loam mineral horizon, underlain by a subsoil which in its upper part is a very dark gray silty clay loam and in its lower part is a dark gray silty clay. Chase soils are Aquic Argiudolls, a classification which reflects their being subject to occasional overbank flooding.

Reading Silt Loam

Reading soils are nearly level and well drained soils which are found on rarely flooded stream terraces. Topographically, they occur adjacent to Chase soils. They are classified as Typic Argiudolls, and as such are characterized by having a thin argillic horizon which decreases rapidly in clay content with depth. Reading soils have a dark grayish brown silt loam mineral horizon underlain by a dark brown silty clay loam and a mottled dark yellowish brown and yellowish brown silty clay loam.

HYDROLOGY AND DRAINAGE

The survey area is located entirely within the watershed of the Marais des Cygnes River. The Marais des Cygnes is formed by the confluence of One Hundred and Forty-Two Mile Creek and Elm Creek a few km above the survey area. After passing through the survey area, it continues to flow in a general easterly direction for approximately 125 km before emptying into the Osage River near Nevada, Missouri. Major perennial tributaries of the Marais des Cygnes as it passes through the survey area from west to east include Duck Creek in Lyon County; and within Osage County, Mud Creek, Morse Creek, Standifred Creek, Puleston Creek, Coal Creek, and Cable Creek.

VEGETATION

The climax vegetation of the survey area consist primarily of a tall grass prairie dominated by warm season grasses, predominantly big bluestem (*Andropogon gerardi*), little bluestem (*A. scoparius*), switchgrass (*Panicum virgatum*), Indian grass (*Sorghastrum nutans*) and prairie cordgrass (*Spartina pectinata*). Other common species include eastern gamagrass (*Tripsacum*

dactyloides), tall dropseed (*Sporobolus asper*), prairie dropseed (*S. heterolepis*), sideoats grama (*Bouteloua curtipendula*), and prairie junegrass (*Koeleria pyramidata*). In large part, the survey area has been cultivated for the past century and modern vegetation consists of soybean, sorghum, and corn. The only parts of the survey area where significant acreage of natural vegetation approximating the climax vegetation of the region were present were in the easternmost parcel of the survey area (T.18S., R.14E., secs. 1 and 2) where approximately 60 percent of the survey area had been fallow for several years.

Common woodland species in forested strips along streams and hedgerows include hackberry (*Celtis* sp.), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), eastern cottonwood (*Populus deltoides*), black willow (*Salix nigra*), white oak (*Quercus alba*), and black oak (*Q. velutina*). Other common supporting species include bur oak (*Q. macrocarpa*), Shumard oak (*Q. shumardii*), chinkapin oak (*Q. muehlenbergii*), osageorange (*Maclura pomifera*), honeylocust (*Gleditsia tricanthos*), boxelder (*Acer negundo*), white mulberry (*Morus alba*), silver maple (*Acer saccharinum*), Kentucky coffeetree (*Gymnocladus dioica*), Ohio buckeye (*Aesculus glabra*), black walnut (*Juglans nigra*), pecan (*Carya illinoensis*), and hickories (*Carya* sp.).

Some floral species thought to have been of economic importance to aboriginal inhabitants of the region include pigweed (*Amaranthus* sp.), spurge (*Euphorbia* sp.), goosefoot (*Chenopodium* sp.), bulrush (*Scirpus* sp.), pokeweed (*Phytolacca americana*), plum (*Prunus* sp.), hickory, walnut, hazelnut (*Corylus americana*), sunflower (*Helianthus annuus*), buckeye, purslane (*Portulaca* sp.), hackberry, and blackberry (*Rubus* sp.) (Brown and Ziegler 1981; Williams 1986).

FAUNA

The study area is within the Illinoian Biotic Province as defined by Dice (1943). The Illinoian Biotic Province is the broad ecotone between the forests of the Carolinian Province to the east and the semi-arid short-grass Kansan Province which characterizes the western part of the state. As the Illinoian Biotic Province is somewhat transitional, it shares most of its faunal species with the neighboring provinces and has few endemic species of vertebrates. The faunal inventory for the project vicinity includes at least 52 species of mammals, 47 fishes, eight terrapins, six lizards, 22 snake species, three urodeles, and nine salients (COE n.d.b.). At least 237 species of birds are known to reside in the project vicinity or visit during migration (Hall n.d.b.).

Mammalian species common to the area include white-tailed deer (*Odocoileus virginianus*), opossum (*Didelphis marsupialis*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), eastern cottontail (*Sylvilagus floridanus*), beaver (*Castor canadensis*), eastern gray squirrel (*Sciurus carolinensis*), thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*), woodchuck (*Marmota monax*), harvest mouse (*Reithrodontomys* sp.), white-footed mouse (*Peromyscus leucopus*), eastern wood rat (*Neotoma floridana*), Prairie vole (*Microtus ochrogaster*), muskrat (*Ondatra zibethica*). Common fishes include various catfish (family Ictaluridae), sunfish (*Lepomis* sp.), crappie (*Pomoxis* sp.), gar (*Lepisosteus* sp.), and largemouth bass (*Micropterus salmoides*). Common reptiles and amphibians include the copperhead (*Agkistrodon contortrix*), timber rattlesnake (*Crotalus horridus*), various kingsnakes (*Lampropeltis* sp.) and water snakes (*Nerodia* sp.), snapping turtle (*Chelydra serpentina*), slider (*Trachemys scripta*), box turtle (*Terrapene* sp.), and map turtle (*Graptemys* sp.),

Woodhouse's toad (*Bufo woodhousii*), and bullfrog (*Rana catesbeiana*). Other fauna which have been expatriated from the area or are rare, but which were formally common and of probable economic importance to aboriginal inhabitants of the region include bison (*Bison bison*), pronghorn (*Antilocapra americana*), wapiti (*Cervus canadensis*), black bear (*Ursus americanus*), wolf (*Canis lupus*), black-footed jackrabbit (*Lepus californicus*), turkey (*Meleagris gallopava*), and greater prairie chicken (*Tympanuchus cupido*). The most important invertebrate to aboriginal inhabitants was undoubtedly the river mussel (Family Mytilidae), a readily available resource to prehistoric sites in close proximity to perennial streams.

IV: REGIONAL CULTURE HISTORICAL BACKGROUND

CULTURAL BACKGROUND

Prehistoric Background

The survey area is located within the Osage Cuestas physiographic region as defined by Mandel (1987). The area is characterized by cuestas formed by differential erosion of underlying limestone and shale bedrock. The cultural chronology for the Central Plains is traditionally subdivided into seven major temporal units (Brown 1987). These are, from oldest to youngest, the Paleo-Indian, Archaic, Early Ceramic, Middle Ceramic, Late Ceramic, and Historic. These divisions reflect changes in subsistence as exhibited by material remains and settlement patterns. A brief summary of the regional cultural chronology is provided below. Much of the information, particularly with regard to recognized cultural phases, has been derived from the *Kansas Prehistoric Archaeological Preservation Plan* (Brown and Simmons 1987).

Paleo-Indian Period (before 12,000-8,000 B.P.)

The earliest cultural occupations in North America, termed Paleo-Indian, have been dated to the Late Pleistocene/Early Holocene epochs. At the end of the Pleistocene, dramatic environmental changes occurred throughout most of North America. As the Laurentide ice sheet retreated northward in the early part of the Paleo-Indian period, a corridor to the Arctic gradually opened, allowing an unrestricted flow of cool dry air, making the climate increasingly continental (i.e. dryer with cooler winters and warmer summers). The boreal and mixed forests of the Woodfordian gradually migrated northward, giving way to grassy plain. Numerous species of Pleistocene fauna became extinct while others migrated northward or became isolated to geographically discrete niches.

The Paleo-Indian is frequently referred to as the time of the "Big Game Hunting" tradition, due to a presumed heavy reliance upon now-extinct species of Pleistocene megafauna as a food source during the earlier part of this period (Willey 1966:37). It should be stressed however, that very few sites in North America have been found to contain remains of extinct Pleistocene megafauna in association with Paleo-Indian artifacts; thus, a heavy emphasis on this association is now thought to be somewhat questionable. Within the Great Plains region, bison were unquestionably of major economic importance after about 11,000 B.P. It is apparent that smaller mammals, as well as fish and a variety of vegetal foods, were also utilized. Social organization probably consisted of loosely structured, highly mobile social groups composed of several nuclear families, referred to as bands. Kelly and Todd (1988) suggest that subsistence patterns of the earliest Paleo-Indian inhabitants were probably oriented around hunted species rather than place-oriented. That is to say, that disadvantages caused by a lesser degree of areal familiarity would be offset by intimate familiarity with the hunted species. This strategy would facilitate, and even promote a large degree of geographic mobility correlated with migration patterns of hunted species. Sites of this period are often representative of transient camps along small streams occupied by band size or smaller groups. Base camp-sized occupation loci are relatively rare in Kansas, particularly the region being considered. Most Paleo-Indian finds in eastern Kansas have been limited to surface finds of

diagnostic point artifacts. The population density is thought to have been rather low during this period.

The earliest diagnostic artifacts indicative of the Paleo-Indian period include finely crafted, lanceolate-shaped fluted point artifacts of the *Clovis* and *Folsom* types. These artifact types exhibit remarkable uniformity of style, and have been found throughout much of North America. Because of the relative rarity of identified Paleo-Indian production areas and the stylistic uniformity of these early points over large geographic areas, it has been suggested that these artifacts were the focus of trading/distribution networks between widely separated bands during the Paleo-Indian period. The *Clovis* type has been found in association with extinct mammoth remains and is thought to date from between 11,500 and 11,000 B.P. (Haynes 1980). Sites characterized by *Clovis* point artifacts are generally referred collectively as the Llano complex. The *Folsom* type has been found in association with extinct species of bison. Sites with this point type are referred to as the Folsom complex and generally date from about 10,850 to 10,200 B.P. (Frison 1991).

Cultural manifestations of the latter part of the Paleo-Indian period are referred to generally as the Plano complex. The *Dalton* point type is a very common type of this time period in much of eastern North America, dating from about 10,500 to 9,000 B.P. in the central plains. Other point types attributable to the Plano complex include *Plainview*, *Hell Gap*, *Meserve*, *Milnesand*, *Midland*, *Agate Basin*, *Scottsbluff*, and *Eden*. Plano complex points are commonly associated with large bison kill and butchering sites in the plains region.

Archaic Period (8,000-2,000 B.P.)

The Archaic period is typically defined as the period when migratory hunting and gathering cultures adapted to changing environmental conditions through expanded exploitation of varied ecological niches and development of a more varied cultural assemblage to exploit these different environments and resources. In most areas of North America, human populations saw a gradual and continued growth throughout the Archaic period.

The beginning of this period generally coincides with the final terminus of the Pleistocene epoch. In the Central Plains region, the beginning of the Archaic period is marked by a climatic shift from a moist, cool period to a relatively warmer and dryer climate. This dry period, known as the Altithermal, is thought to have lasted 3,000 to 4,000 years. A popular theory of a few decades ago suggested that conditions were so severe that the Central Plains were largely abandoned during much of the Altithermal. The generally accepted theory today is that population density may have been somewhat lower during the Altithermal and utilized more restricted ecological niches, but were clearly present.

Archaic populations, like their Paleo-Indian predecessors, are thought to have been organized into bands. Although bison exploitation probably dominated subsistence activities through much of the Archaic, groups during Archaic times probably relied more heavily upon the hunting of smaller animals, such as deer, antelope, cottontail, and woodrat, and upon the gathering of plant resources such as walnuts, hickory nuts, goosefoot, spurge, pigweed, and wild grains.

Differences in the material culture during the Archaic period are believed to reflect somewhat larger and more localized populations, as well as changes in methods of food procurement and processing, among other things. Although early Archaic populations probably made their living in much the same way as their Paleo-Indian predecessors, the Archaic period, on the whole, can be characterized as having more specialized resource procurement activities as well as more specialized technology to accomplish these activities.

The Archaic period is characteristically divided into early, middle, and late divisions in most of eastern North America. This tripartite division characterizes an evolutionary trend toward more sedentary, less migratory settlement patterns. In the western plains, this trend is less pronounced than in the eastern woodlands. For this reason, a phase nomenclature based on cultural characteristics rather than temporal age is sometimes preferred in Kansas to describe Archaic cultures (Brown 1987). These phases are identified by numerous intra-phase shared cultural similarities, and although they form a general temporal framework, they should not be viewed as necessarily temporally sequential.

The Logan Creek phase is an Archaic phase primarily identified in western Iowa, eastern Nebraska, and eastern Kansas. It is characterized by small to medium sized side-notched triangular projectile points with grinding on the bases and notches, plano-convex side-notched scrapers, small end-scrapers, grinding stones, metates, bone tools, and small hammerstones. Logan Creek phase sites are sometimes associated with bison remains and have exhibited a wide range of dates approximately 7,300 to 5,750 B.P. although the phase may have persisted even longer in some areas.

The Munkers Creek phase is an Archaic cultural manifestation located primarily within the Flint Hills region of east-central Kansas. The most characteristic artifacts of this phase are points similar to the *Nebo Hill* and *Sedalia* types, *Munkers Creek* knives, and *Clear Fork* gouges. Dates from approximately 5,700 to 3,000 B.P. have been produced by Munkers Creek phase components in eastern Kansas (Witty 1969) although most are from the earlier part of this range. A prominent site with a Munkers Creek phase component near the survey area is the Cow Killer site (14OS347) east of Melvern Lake (Reynolds 1984).

The Chelsea phase is not very well defined spatially as it has only been identified at a few sites in the southern Flint Hills region. Diagnostic artifacts include short, squat, broad points with shallow, circular side-notches similar to Logan Creek phase examples, large bifaces, and grinding stones. The beginning of the Chelsea phase, about 4,850 to 4,050 B.P., is thought to coincide with the beginning of a Neo-boreal climatic phase. A varied subsistence base is suggested by faunal remains (Grosser 1977; Root 1981).

The El Dorado phase is a late Archaic cultural manifestation of the Flint Hills and western Osage Cuestas region of Kansas. It was originally identified at the Snyder site (14BU9) about 60 kilometers southwest of the survey area (Grosser 1970). Characteristic artifacts of this phase include *Dustin* and *Table Rock* point types as well as a variety of long, narrow stemmed point styles, grinding stones and other chipped stone artifacts. Faunal and floral remains suggest that a large variety of plant and animal resources were exploited. El Dorado phase components have

yielded dates from approximately 4,050 to 3,300 B.P. Grosser (1977) suggests that the terminus of the El Dorado phase in terms of diagnostic artifacts may be associated with the introduction of the bow and arrow.

The Colvin phase is a poorly understood late Archaic cultural manifestation which is geographically discrete, being limited at present to a few sites along the Wolf and Long creek drainages in Coffey County, Kansas south of the survey area. This phase is thought to date to approximately 3,500 to 2,500 B.P. The known sites of this phase are characterized by large point artifacts, grinding stones, and fire-reddened limestone (Rohn et al. 1977).

The Walnut phase, like the El Dorado phase, was originally defined at the Snyder site (14BU9) in southwest-central Kansas (Grosser 1970). It is characterized by small corner-notched points often referred to as the *Walnut Valley* type which may have served as tips for arrows. The Walnut phase is not as well defined as the El Dorado phase, being identified at only a few sites, but is thought to range from approximately 3,200 to 2,000 B.P.

Early Ceramic Period (ca. 2,000-1,100 B.P.)

The Early Ceramic period in eastern Kansas roughly coincides with what is referred to as the Woodland period in much of the eastern United States. The beginning of the period is characterized by the introduction of a number of technological innovations, ritual practices, and adaptive strategies from the east, primarily the Middle Woodland Hopewellian cultures of the Ohio and Illinois river valleys. Obvious developments include an increased dependence on horticulture and agriculture, particularly in the adaptation of tropical cultigens such as maize and squash, population increases, increasingly restricted foraging ranges, the widespread usage of ceramics and the bow and arrow, sedentary villages, and burial mounds. Archaeologically, two distinct Early Ceramic cultures have been identified in eastern Kansas: the Plains Woodland (Early Ceramic) and the Hopewellian. It is generally thought that the dramatic changes at the end of the Archaic period were too pronounced to have resulted from diffusion and must have involved actual immigration of Hopewellian affiliated people into eastern Kansas along the Missouri and Kansas river valleys. Archaeological groups in northeastern Kansas and western Missouri which exhibit extreme similarity to Hopewellian peoples of the central Woodland cultures are often referred to as the Kansas City Hopewell. The Plains Woodland cultures include those groups which exhibit traits demonstrative of Hopewell influence but are thought to have arisen from previous Archaic cultures. Early Ceramic period cultures in the Melvern Lake region include the Schultz, Deer Creek, Greenwood, and Cuesta phases.

The Schultz phase, dating from about 2,000 to 1,300 B.P., has been identified at several sites in east-central Kansas. The most common site types as yet identified are burial mound and small habitation sites. Characteristic stone artifacts include *Scallorn*-like points, various side-notched point styles, drills, and a variety of ground or pecked artifacts including platform pipes, abraders, pendants, and other tools and ornaments. Ceramic wares are relatively sparse on most sites, but are characteristically grog or crushed mineral tempered. Remains represent small to medium sized cone-shaped vessels with plain or smoothed over cordmarked exterior surface treatments. Although extensive floral and faunal remains have been recovered from two Geary

County sites, no evidence of tropical cultigens characteristic of later prehistoric sites have been found. Although clearly influenced by Hopewellian intrusions into the region, the Schultz phase is likely to have arisen in situ from earlier Archaic cultures.

The Deer Creek phase is a poorly defined culture identified at a few sites in Douglas and Shawnee counties, northeast-central Kansas (Johnson 1968). A date from approximately 2,000 to 1,250 B.P. has been hypothesized based on similar ceramic stylistic attributes. Site types are typically small habitation or campsites along small stream terraces. No architectural features have presently been identified. Characteristic artifacts include small *Scallorn*-like points, various larger corner-notched and stemmed point styles, and grit-tempered ceramics. Little is known concerning Deer Creek phase subsistence practices but based on the absence of larger villages, a predominantly foraging economy is hypothesized. Although some Hopewellian influence is evident, the Deer Creek phase is thought to have arisen in situ from earlier Archaic cultures.

The Greenwood phase is a well-defined Early Ceramic culture of central eastern Kansas and surrounding regions, dating from about 1,600 to 1,100 B.P. (Witty 1982). Characteristic site types include villages and small ancillary resource procurement sites. Large oval to circular structures have been identified at several of the larger village sites. Diagnostic ceramic artifacts include *Verdigris* and *Greenwood* ceramic types. Point style characteristics include deep notching on the extreme lower lateral margins similar to the *Scallorn* and *Ensor* point types as well as a variety of large expanding base points reminiscent of earlier Archaic types. Numerous ground and pecked stone implements, bone beads, and bone and shell tools also occur. Although maize has been identified at one site, subsistence clearly was dominated by hunting and gathering. A Greenwood phase component has been identified at the Cow-killer site at Melvern Lake (Reynolds 1984). The Greenwood phase probably arose independently from earlier Plains Woodland cultures.

The Cuesta phase is a well-defined later Early Ceramic culture of southeastern Kansas and surrounding regions, dating from about 1,300 to 1,000 B.P. Characteristic site types include hamlets, large villages, and small ancillary resource procurement sites. Large oval to circular structures have been identified at several sites. Diagnostic artifacts include a wide variety of ceramic types, *Gary*, *Ensor*, and *Snyders* point types, numerous ground and pecked stone implements, and bone tools. Numerous similarities have been noted between the Cuesta phase and other contemporaneous cultures including the Greenwood phase. The Cuesta phase may have been derived from Hopewellian immigrants into eastern Kansas or may have arisen independently from earlier Plains Woodland groups.

Middle Ceramic Period (1,100-500 B.P.)

The Middle Ceramic period in the Melvern Lake region is primarily characterized by the Pomona culture. Originally defined by Witty (1967) as a focus, it was later defined as a variant of the Plains Village tradition. Four Pomona phases with overlapping geographical and temporal ranges have been identified based on lithic and ceramic attributes (Brown 1984). The Pomona variant dates from approximately 1,000 to 550 B.P. Three ceramic styles identified with this variant include *Pomona Plain Rims and Lips*, *Pomona Decorated Rims and Lips*, and *Pomona Knobbed Rims and Lips*. Common chipped artifacts include a variety of small projectile points, larger stemmed points,

and marginally modified end-, side-, and disto-lateral scrapers. Ground or pecked stone artifacts include various abraders, nutting stones, anvils, celts, discoid, pipes, and polished hematite. A wide variety of site types ranging from small campsites or resource procurement areas to large communities of scattered small residential activity areas have been identified. Occupation sites typically occur on low creek terraces. House locations are often identified from daub concentrations. Subsistence probably consisted of hunting and gathering with limited cultivation of maize, beans, squash, and sunflower. A number of sites at Melvern Lake having Pomona components have been tested or excavated.

Late Ceramic Period (500-200 B.P.)

No sites have been identified in the Melvern Lake area which were occupied during the Late Ceramic period. Nearby cultures during this period include the Oneota and the Great Bend aspects, forerunners of the historic Kansa and Wichita.

The Oneota aspect is a prehistoric culture identified at sites scattered throughout the eastern portion of the Great Plains dating from about the Middle Ceramic Period through the Late Ceramic period and into historic times, being identified as the Kansa of early historic accounts of the region. Only a few sites have been identified in Kansas, confined to the northeastern part of the state. Ceramics consist of shell tempered bowl or globular jars with lugs, loop, and strap handles, and notched rims common. Other artifacts include small triangular points and large lenticular bifaces, and a variety of modified bone tools and ornaments. Subsistence probably consisted of cultivation of maize, beans, and squash with hunting and foraging occupying a major role. On later sites, Euro-American trade goods may occur. Typical sites identified are permanent villages with large, circular, earthlodges or bark-covered dwellings situated on major stream terraces.

To the southwest of the survey area, the Great Bend aspect, dating from approximately 550 to 300 B.P. has been identified at several sites. Numerous sites have been identified in Kansas, primarily in the east-central part of the state. Ceramics consists of a variety of shell and sand tempered bowl and jar forms exhibiting characteristics such as loop strap handles, red film and stamped surface treatments. Other artifacts include small triangular points and large lenticular bifaces, plano-convex bifaces and end-scrapers, and a variety of modified bone tools such as hoes, knives, fleshers, and ornaments of bone and shell. Subsistence probably consisted of cultivation of maize, beans, and squash with hunting and foraging occupying a major role. Typical sites identified are permanent villages with oval or circular bark-covered dwellings along drainages. Later sites of this culture may exhibit surrounding palisades.

Historic Period (200 B.P.-present)

By the early nineteenth century, the Kansa Indians occupied the Melvern Lake area, although no specific sites attributable to the Kansa have been identified and it is probable that they had only been there for less than a century. In 1825 the Kansa ceded most of their territory, including the Melvern Lake area to the United States. Between 1825 and 1846, no Indian groups officially occupied the Melvern Lake area although Kaskaskia, Ottawa, Peoria, Piankashaw, Shawnee,

and Wea groups occupied reservations in the vicinity and may have utilized the area for hunting (Herring 1990).

In 1846, a reservation for the Sac and Fox Indians was established in the southern two-thirds of present Osage County and small portions of present Lyons, Coffey, and Franklin counties, including all of the present survey area. Most of the approximately 1000 Sac and Fox who settled there lived in the eastern part of this reservation away from the survey area. In 1858, the federal government began constructing frame and stone houses for the Indians at the Indians' expense in an attempt to acculturate the tribe to European-American ways. Although little information remains on the location of these houses, most are thought to have been in the eastern portion of the Sac and Fox Reservation and none are known to have survived to the present day. In 1859, the size of the reservation was reduced somewhat. After Kansas became a state in 1861, white squatters began settling the area. In 1867, the Sac and Fox Reservation was taken from the Indians and officially opened to white settlement. One group of Indians under a leader named Mokohoko refused to leave and remained in the area until they were forcibly removed in 1875. Many returned and they were again removed in 1878 and 1886 (Herring 1990).

The first two towns established on the Marais des Cygnes valley were Olivet (now called Old Olivet) and Arvon in 1868 and 1869 respectively. Old Olivet was abandoned by 1879, but Arvon survives to the present day. In the early 1880s, the town of Reading was established along the Atchison, Topeka, and the Santa Fe Railway between Osage City and Emporia. Since that time, most of the survey area has been used for agriculture. With the creation of Melvern Lake in the 1960s, land of the survey area was acquired by the Federal government but the area continues to be leased for agriculture and no significant changes in land usage have occurred (Aldenderfer 1980).

V: SITE DESCRIPTIONS

The Phase II survey of the survey area resulted in the discovery of 22 previously unrecorded archaeological sites (Figure 2). This total includes 12 prehistoric sites, six historic sites, and four sites with both historic and prehistoric components. Fourteen previously recorded sites which were within or near the survey area were also investigated. Of these, 10 were relocated by the investigation.

Prehistoric Sites

14LY100

Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined
Topographic setting:	River terrace
Parent material:	Formed in loamy and clayey alluvial sediments
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	1475 m ² : 25 m east-west by 75 m north-south
Surface visibility:	Approximately 80 percent
Slope:	0-2° to the north
Surface vegetation:	100 percent soybeans when recorded
Date of investigation:	3 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,058 ft (322 m)

Site 14LY100 consists of small, very sparse lithic scatter situated at the edge of a cultivated soybean field and adjacent to a county road (Figure 3). The soil is classified as a Chase silty clay loam, part of the Chase-Osage series (USDA-SCS 1981), probably formed during the mid-Holocene epoch. The surface soil consisted of a medium brown sandy or silty clay loam which extended to the base of the a depth of approximately 20 to 25 cm and probably represents the historic plow zone. Below about 20 to 25 cm in depth, a dark brown to dark gray clay was encountered.

The Marais des Cygnes River is located approximately 300 m northeast of the site. However, an oxbow remnant characterized by a shallow linear depression is located about 60 m to the northeast. If this oxbow dates to the period of the prehistoric occupation of the site, an immediate source of fresh water and other aquatic resources may have been a primary consideration in the site selection process.

Only five lithic artifacts were observed, including four tertiary flakes and a secondary flake, all of chert. All were located on the ground surface and none were collected. Eleven shovel tests were conducted in the site area and vicinity (Figure 3). All proved to be culturally sterile.

The site is not thought to be eligible for the NRHP for the following reasons. No features or areas of specific functional activity could be identified. The paucity of artifacts and the absence of diagnostic artifacts is not conducive to more intensive analysis. All observed artifacts

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were located on the surface in a context that has been heavily disturbed by historic and recent agriculture. No further investigation is thought to be warranted.

14LY101

Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined
Topographic setting:	River terrace
Parent material:	Formed in loamy and clayey alluvial sediments
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	3500 m ² : 45 m east-west by 100 m north-south
Surface visibility:	Approximately 95 percent
Slope:	0-2° to the east
Surface vegetation:	Cultivated oats when recorded with a thin strip of hardwood timber and undergrowth along the river's edge
Date of investigation:	11 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

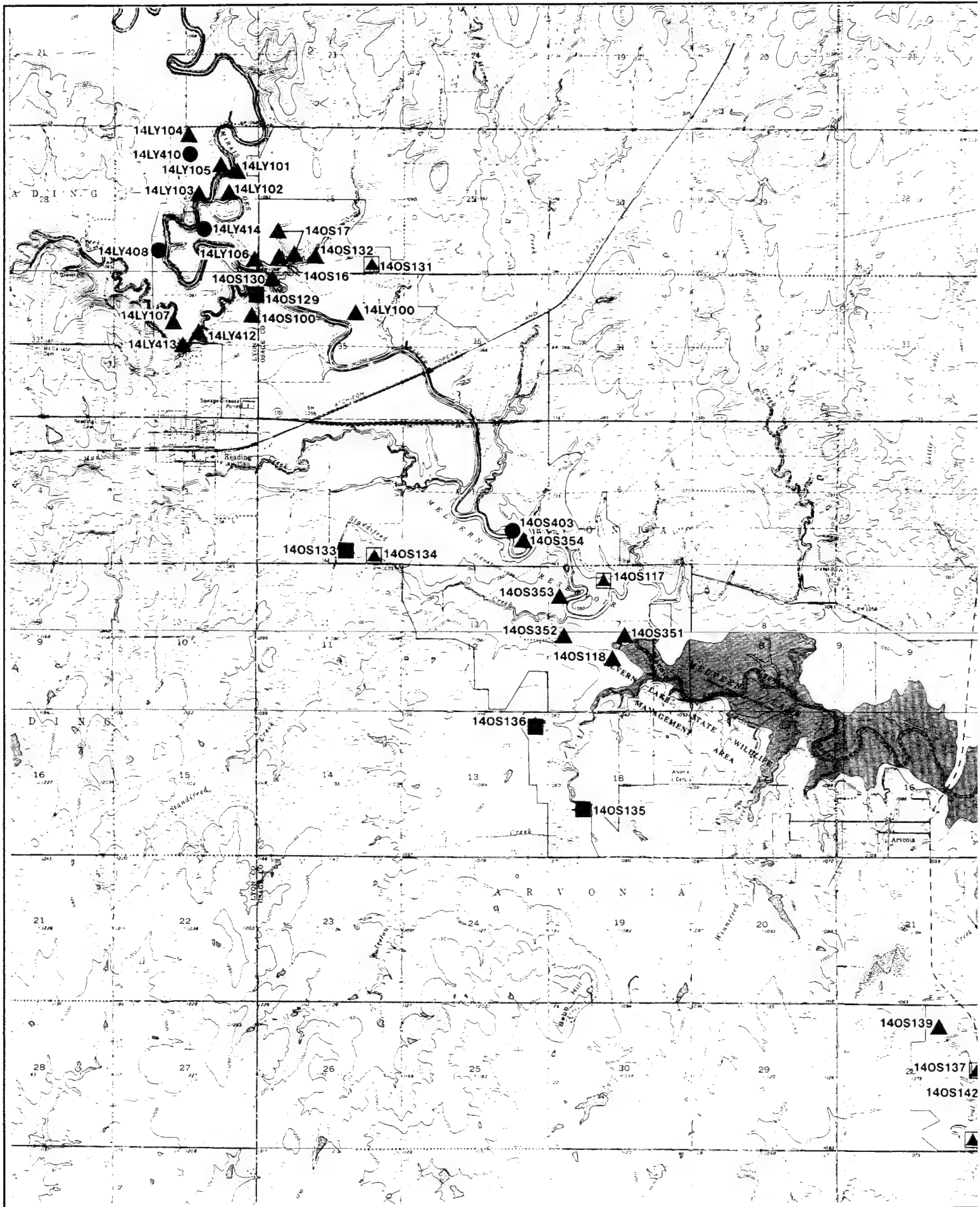
Site 14LY101 consists of a small surficial lithic scatter situated in a cultivated field on a terrace above and immediately east of the Marais des Cygnes River (Figure 4). The soil is classified as a Chase silty clay loam, part of the Chase-Osage series (USDA-SCS 1981), probably formed during the mid-Holocene epoch. The surface soil was described as a chunky dark olive brown to gray brown silty clay loam which became more compact and clayey beneath the plow zone (ca. 20 cm in depth). At the time of the survey, the site area had been recently tilled and planted in oats so surface visibility was almost 100 percent (Figure 5).

Observed artifacts include approximately 70 lithic debitage fragments and a few modified lithic fragments. The southern portion of the site exhibits the heaviest artifact density in an area about 10 by 30 meters where approximately 25 artifacts were observed. Collected material include two bifacial point tips (Figure 6a and 6b), two biface fragments (Figure 6c and 6d) and sixteen flakes. The subsurface potential of the site was investigated by the placement of 12 shovel tests within the site area. No cultural materials were recovered in a subsurface context.

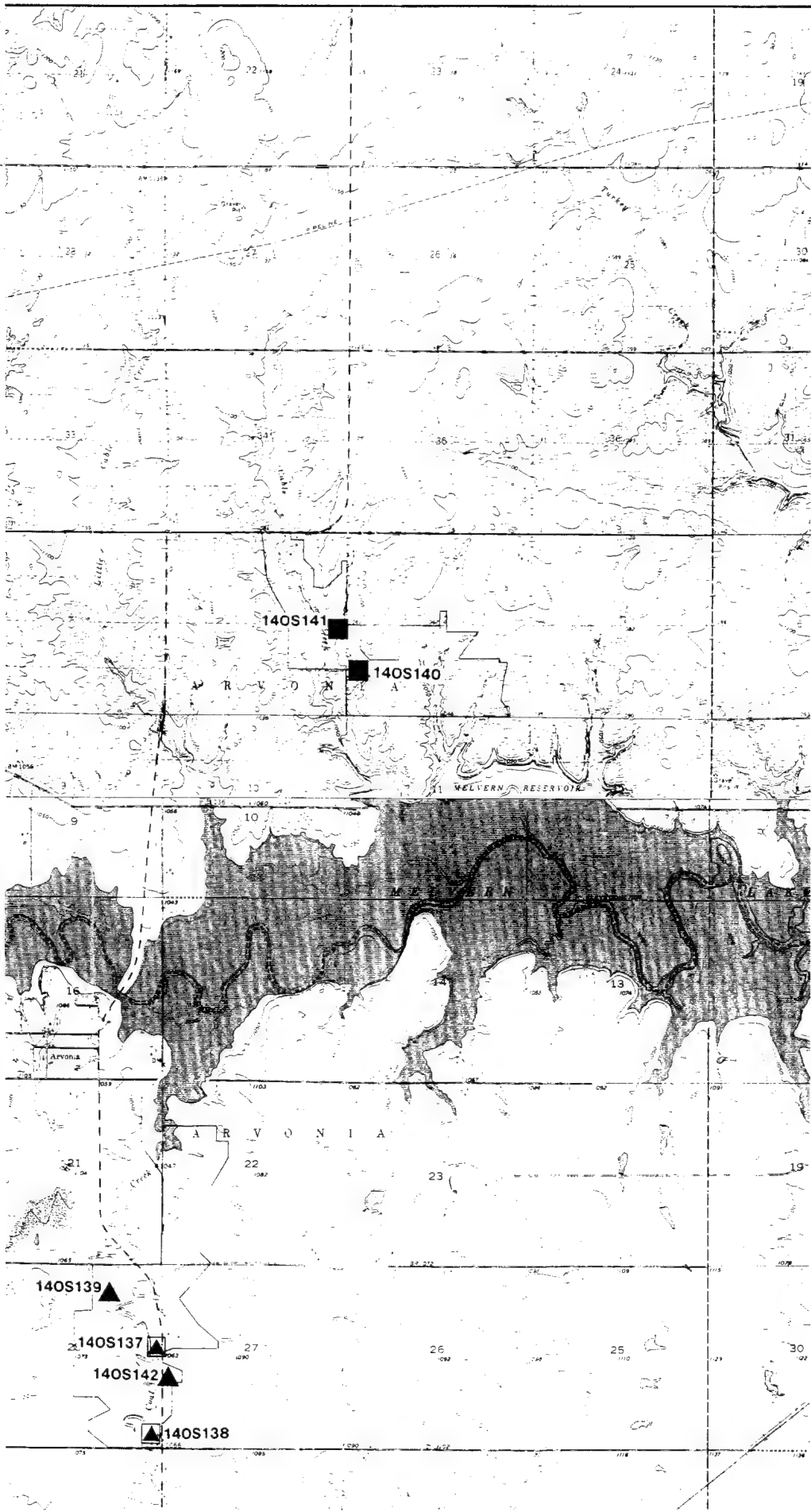
Site 14LY101 is not thought to be eligible for the NRHP due to the apparent shallow nature of deposits and past disturbance from agricultural activity. No further investigation is thought to be warranted.

14LY102

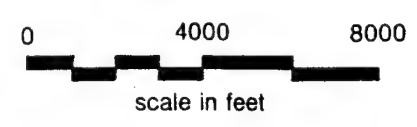
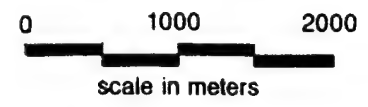
Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined
Topographic setting:	River terrace
Parent material:	Alluvial sediments
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas



2



- ▲ Prehistoric Site with Unidentified Cultural Affiliation
- Historic Site
- Pomona Culture Site
- ◻▲ Site with Prehistoric and Historic Components



Base Map: USGS 7.5' Quadrangles; Lebo, Lebo NW, Osage City and Reading, Kansas

EH&A Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 2
MELVERN LAKE SURVEY
LOCATED CULTURAL RESOURCES

13

- ▲ Prehistoric Site with Unidentified Cultural Affiliation
- Historic Site
- Pomona Culture Site
- ▣ Site with Prehistoric and Historic Components



north

0 1000 2000



scale in meters

0 4000 8000



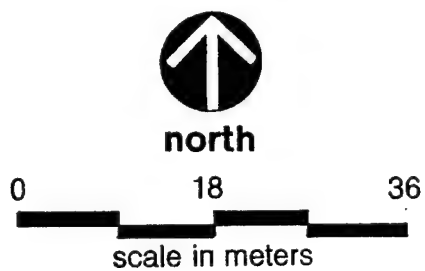
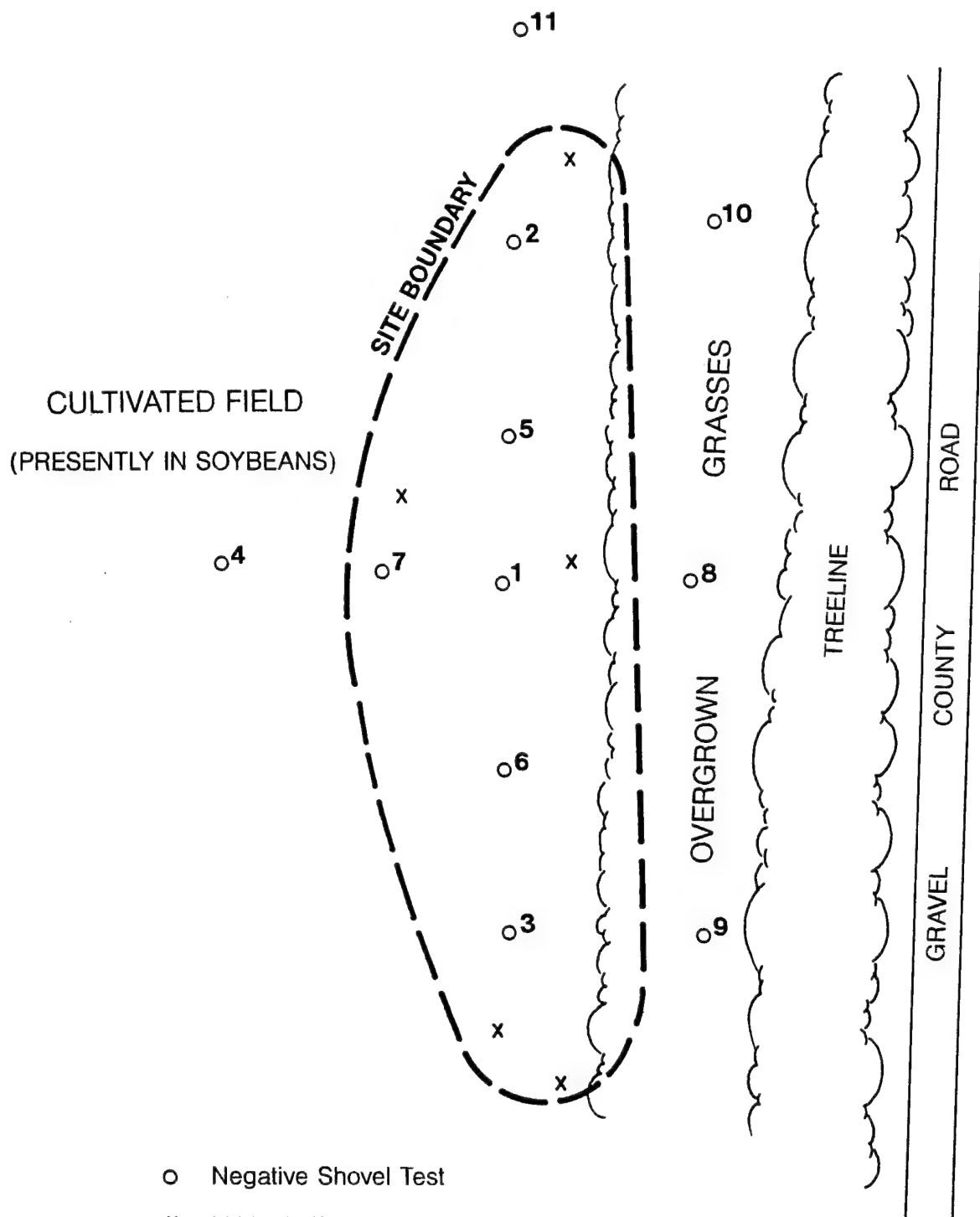
scale in feet

Base Map: USGS 7.5' Quadrangles; Lebo, Lebo NW,
Osage City and Reading, Kansas

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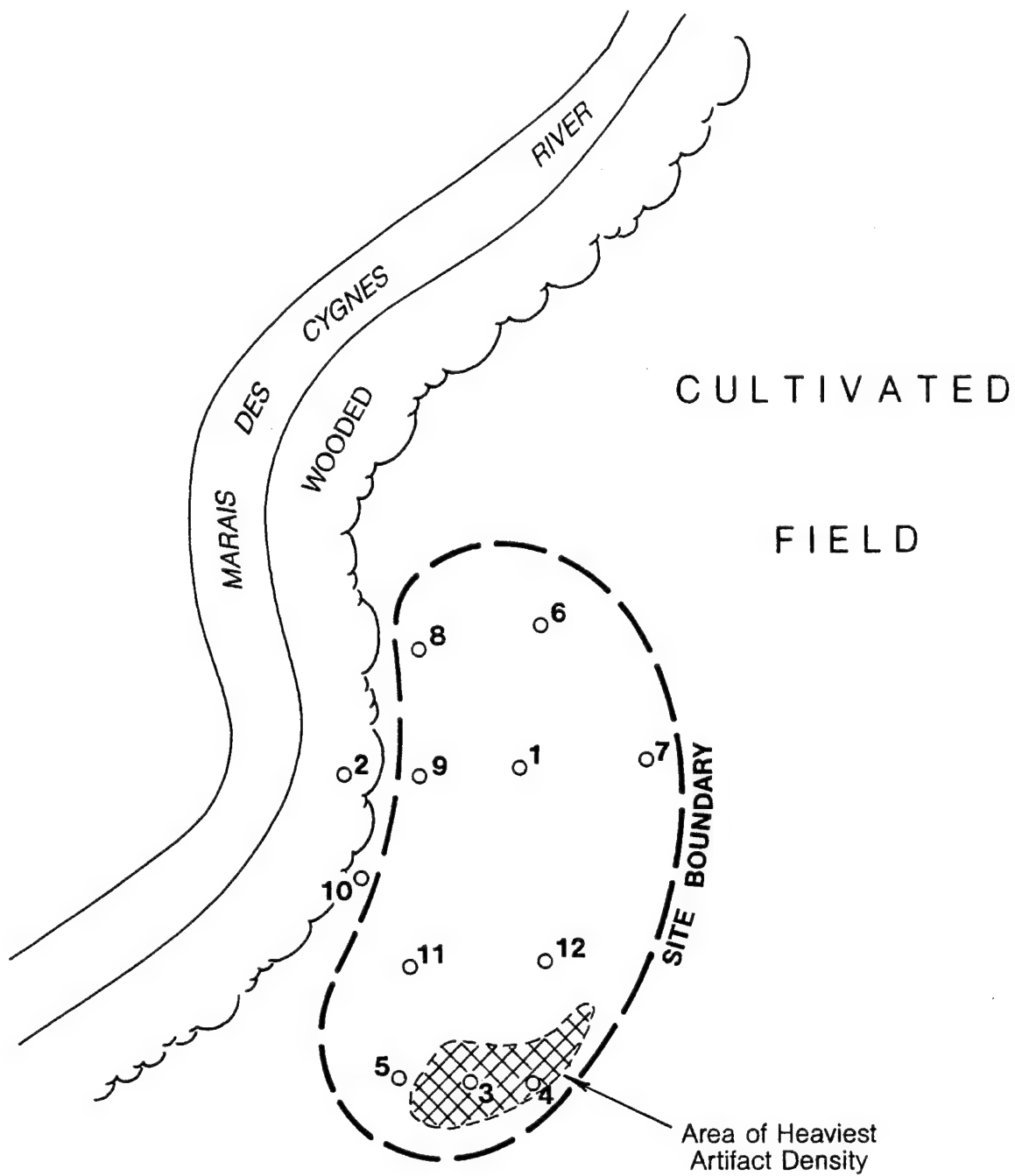
Figure 2

MELVERN LAKE SURVEY
LOCATED CULTURAL RESOURCES

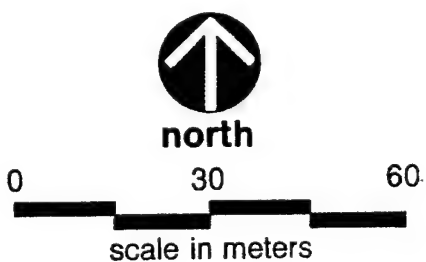


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Figure 3
MAP OF
SITE 14LY100



○ Negative Shovel Test



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Figure 4
MAP OF
SITE 14LY101



Figure 5: Site 14LY101 viewed to north.

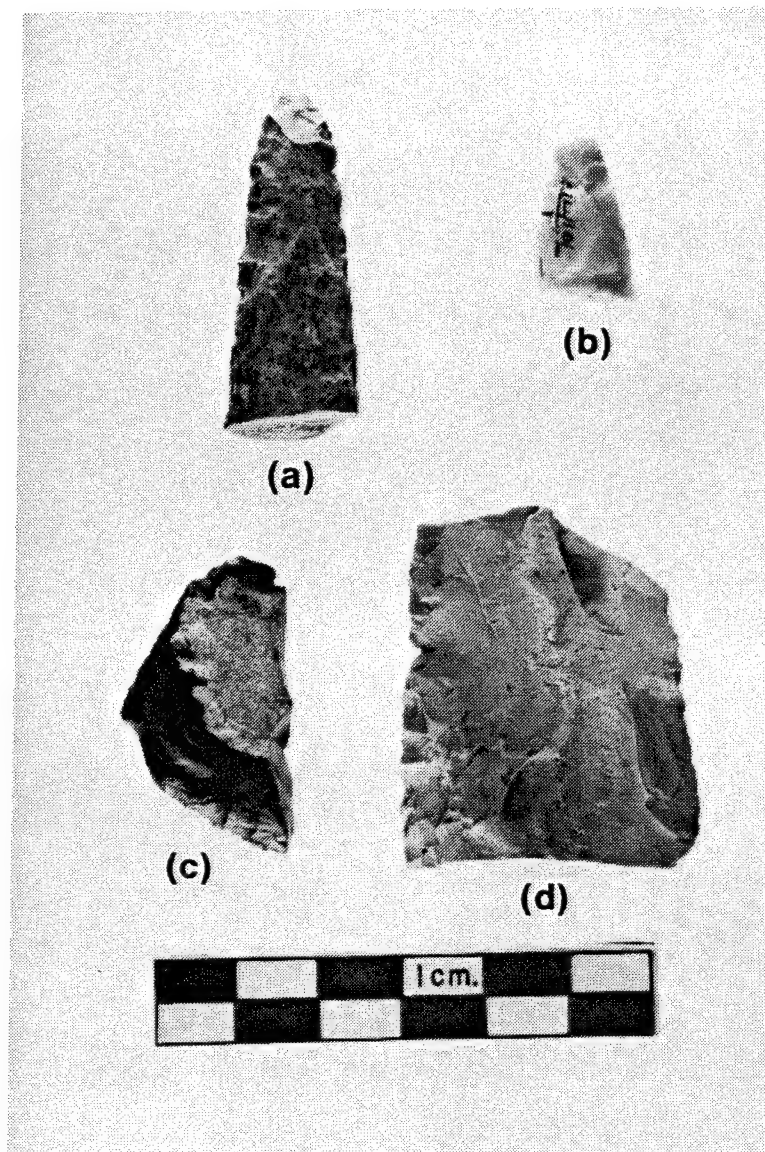


Figure 6: Diagnostic Artifacts from Site 14LY101.

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Site size:	4600 m ² : 60 m east-west by 100 m north-south
Surface visibility:	Approximately 95 percent
Slope:	0-4° to the south
Surface vegetation:	Cultivated oats when recorded with a thin strip of hardwood timber and undergrowth along the river's edge
Date of investigation:	11 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

Site 14LY102 consists of a small surfacial lithic scatter in a cultivated field above the Marais des Cygnes River (Figure 7). The site is located at the interface of two soil types as classified by the USDA-SCS (1981) as Chase silty clay loam and Ivan silt loam. Chase soils are thought to have been formed during the mid-Holocene epoch. Ivan soils are part of the historic-aged floodplain of the Marais des Cygnes River forming over the past ca. 2,500 years. The presence of part of the site on the surface of Ivan soils suggests that the site was deposited during relatively recent times, probably during the Ceramic period, otherwise it is expected that alluvial deposits would cover the site.

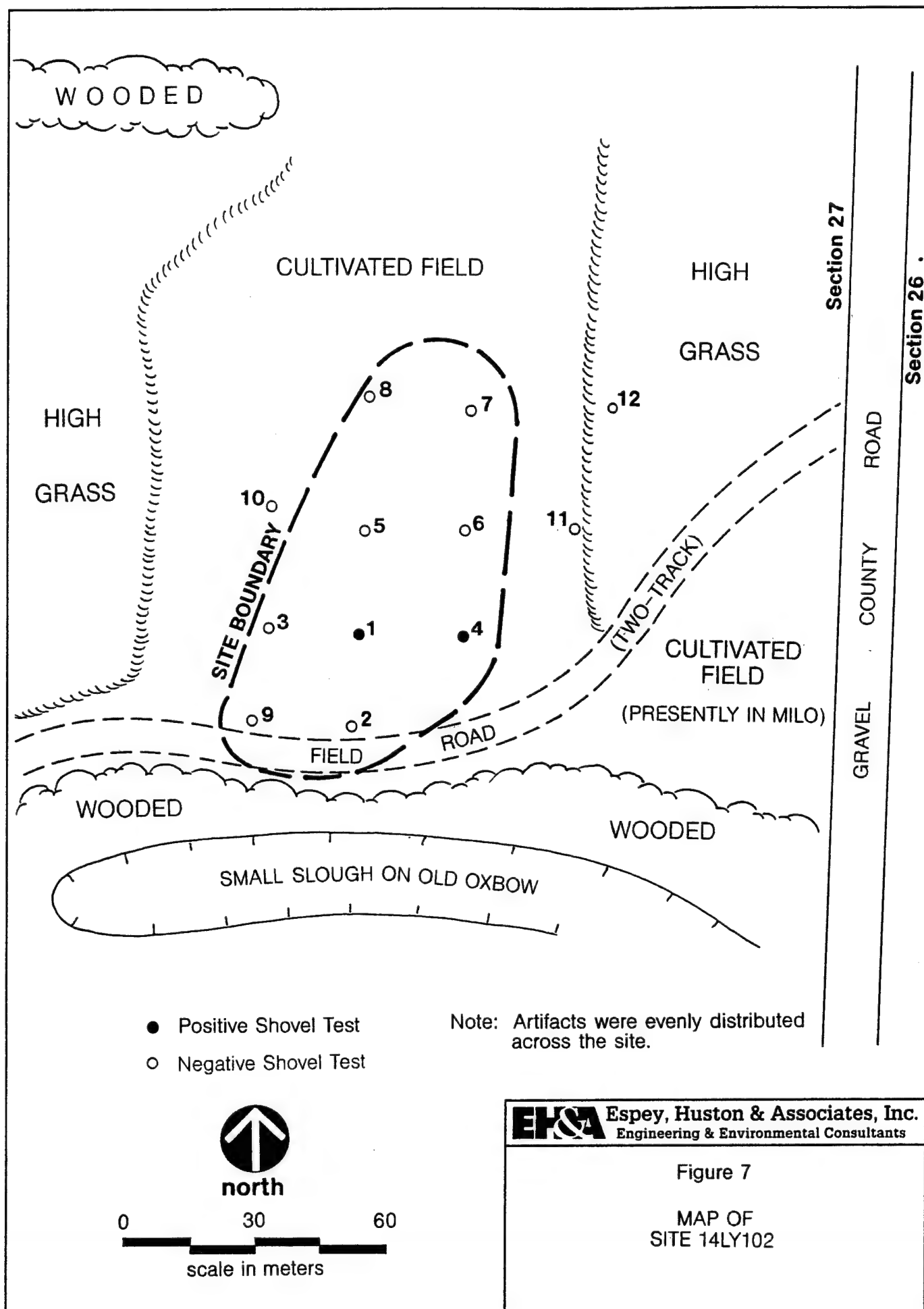
The Marais des Cygnes River is located approximately 220 m to the east-northeast from the site. However, a slough formed on an oxbow channel is located about 10 to 20 m to the south. If this oxbow dates to the period of the prehistoric occupation of the site, an immediate source of fresh water and other aquatic resources may have been a primary consideration in the site selection process.

The surface soil was described as a brown to dark yellowish brown silty clay loam plow zone which overlies an extremely compacted dark brown clay. Observed artifacts consisted primarily of chert lithic debitage, including a core, totaling about 40 artifacts. Observed tools include a biface and a uniface (Figure 8a and 8b), and a few modified flakes, all of which were collected as well as eight chert tertiary flakes. The site area and vicinity was investigated by 12 shovel tests. Except for two shovel tests located in the south-central part of the site, all were culturally sterile. The two positive shovel tests (1 and 4) each yielded a single artifact. They include a metal fragment thought to be a square-cut nail remnant, and a chert tertiary flake, respectively. Both artifacts were recovered from between 10 and 20 cm below the surface.

The site is not thought to be eligible for the NRHP due to the apparent shallow nature of deposits, past disturbance from agricultural activity, and relative paucity of cultural material. No further investigation is thought to be necessary.

14LY103

Site Name:	None
Cultural Affiliation:	Prehistoric--Early Ceramic Period
Topographic setting:	River terrace
Parent material:	Formed in silty and loamy alluvial sediments
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas



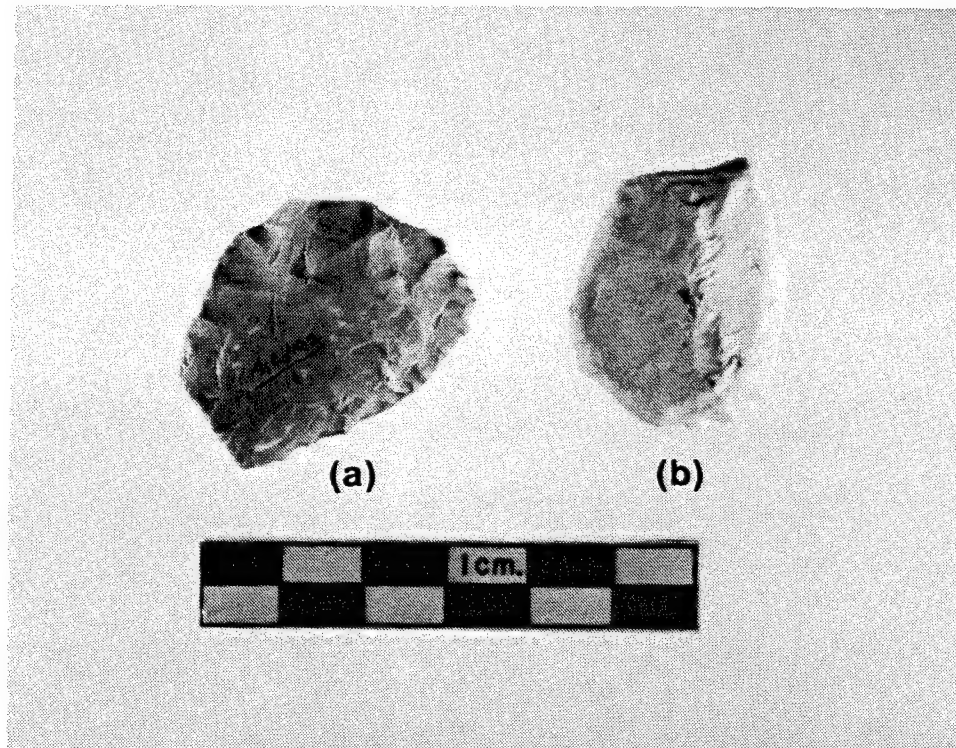


Figure 8: Diagnostic Artifacts from Site 41LY102.

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Site size: 6500 m²: 175 m east-west by 45 m north-south
Surface visibility: Approximately 50 percent
Slope: 0-2° to the south-southeast
Surface vegetation: Overgrown grass, weeds, and soybeans when recorded
Date of investigation: 18 August 1993
Land-use: Under cultivation when recorded
Elevation: 1,065 ft (325 m)

Site 14LY103 consists of a surfacial lithic scatter situated in a cultivated field above the Marais des Cygnes River (Figure 9). The soil of the site location is classified by the USDA-SCS (1981) as Ivan silt loam. Ivan soils are part of the historic-aged floodplain of the Marais des Cygnes River, deposited since the latter part of the mid-Holocene (ca. 2,500 BP). The location of the site on the surface of Ivan soils suggests a relatively recent site formation, probably during the Ceramic periods. Soil stratigraphy, as observed during the site recordation typically consists of a medium brown silty clay loam surface soil approximately 20 cm in thickness overlying a dark brown clay loam which extended to a depth of 40 cm or greater.

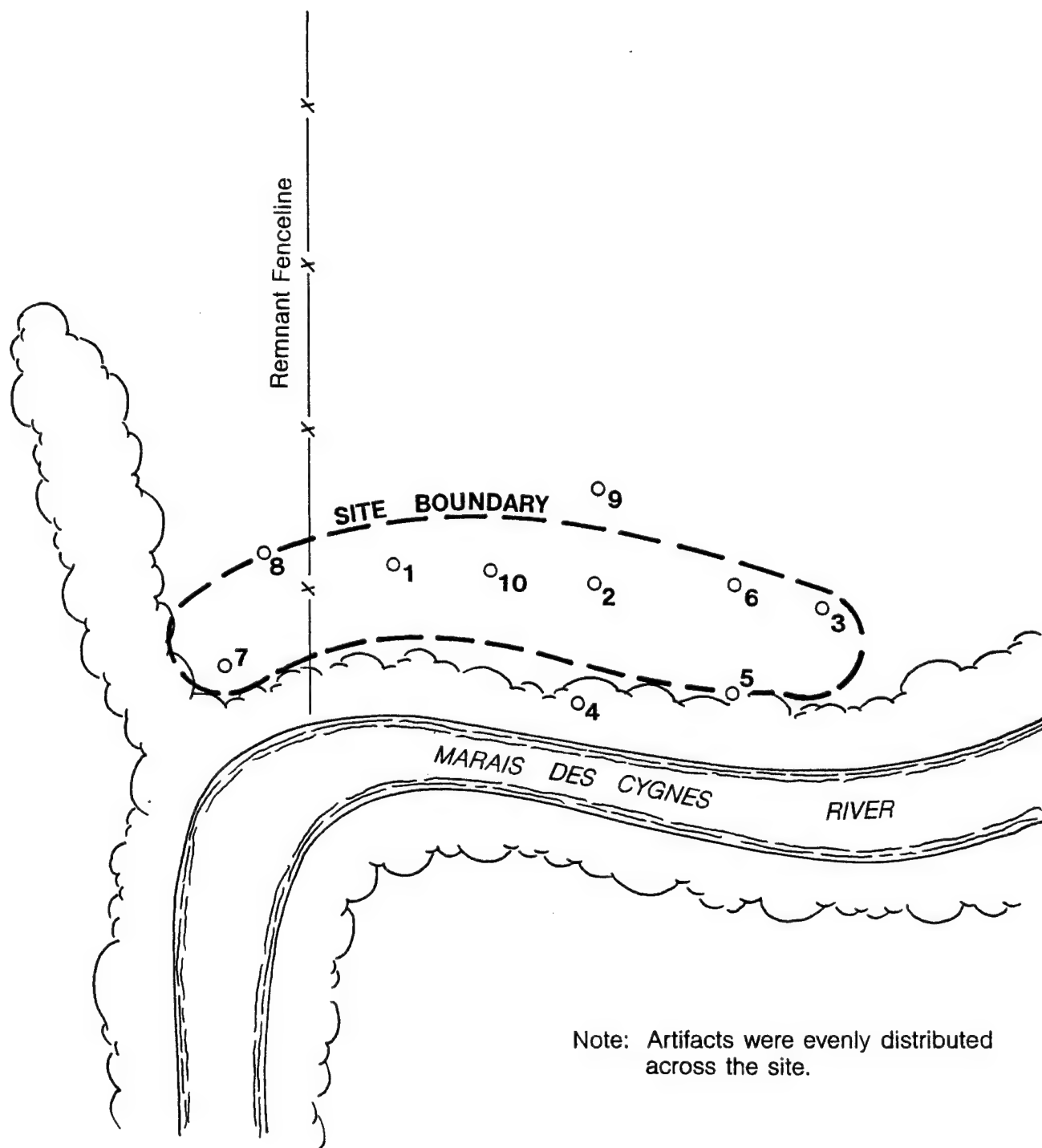
Observed artifacts consist of approximately 50 lithics including a *Scallorn* point (Figure 10a), a uniface, and a core on the ground surface. The potential for buried cultural deposits at the site was investigated by the placement of 10 shovel tests in the site area and vicinity. All were culturally sterile. The *Scallorn* point and a small uniface were the only artifacts collected.

A *Scallorn* point artifact in the site assemblage suggests a prehistoric occupation during the Early Ceramic Period (ca. 2,000-1,100 BP). The size of the site might be suggestive of a base camp site function. However, the lack of located ceramic artifacts and the general paucity of cultural materials is not particularly consistent with a base camp. It is also possible that the site represents number of cultural components representing ephemeral usages such as resource procurement activity areas or short-term campsites. However, insufficient data is available to make a definitive determination of site function, and these suggestions are speculative.

Site 14LY103 is not thought to be eligible for the NRHP due to the shallow nature of cultural material and the heavy impacts that the site has undergone due to historic and ongoing agricultural activity. In our opinion, it is unlikely that more intensive investigation will yield significant additional information about the site. No further investigation is thought to be warranted or is recommended.

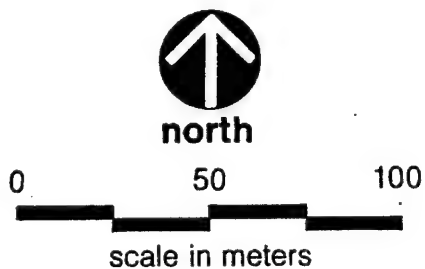
14LY104

Site Name: None
Cultural Affiliation: Prehistoric--Undetermined
Topographic setting: River terrace
Parent material: Formed in silty alluvial sediments
Drainage: Marais des Cygnes River
Recording agency: Espey, Huston & Associates, Inc., Austin, Texas
Site size: 490 m²: 25 m in diameter
Surface visibility: Approximately 70 percent



Note: Artifacts were evenly distributed across the site.

○ Negative Shovel Test



E&A Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 9

MAP OF
SITE 14LY103

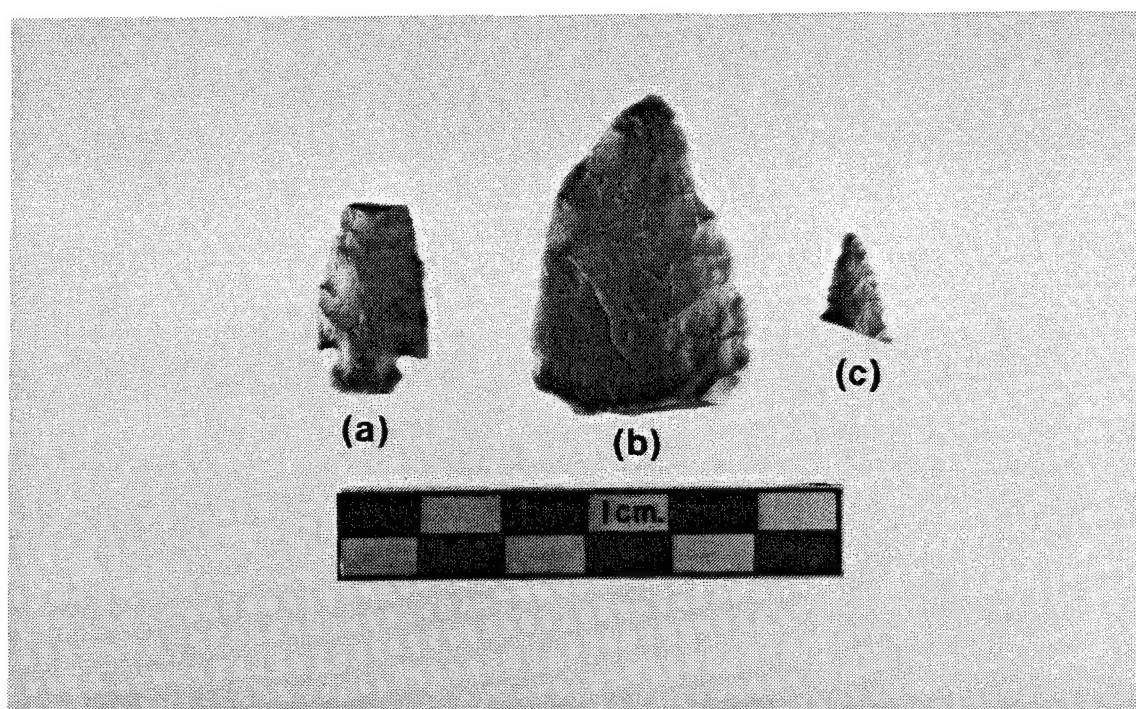


Figure 10: Artifacts from sites 41LY103 and 41LY105.

ESPEY, HUSTON & ASSOCIATES, INC.

Slope: 0-2° primarily to the north
Surface vegetation: Soybeans when recorded
Date of investigation: 18 August 1993
Land-use: Under cultivation when recorded
Elevation: 1,070 ft (326 m)

Site 14LY104 consists of a surfacial lithic scatter located on the northern portion of the crest of a narrow north-south trending rise on an upland terrace (Figure 11). The soil is classified as Reading silt loam (USDA-SCS 1981), probably formed during the mid-Holocene epoch. The observed soil stratigraphy consists of a brown silty clay plow zone overlying a brown clay loam subsoil.

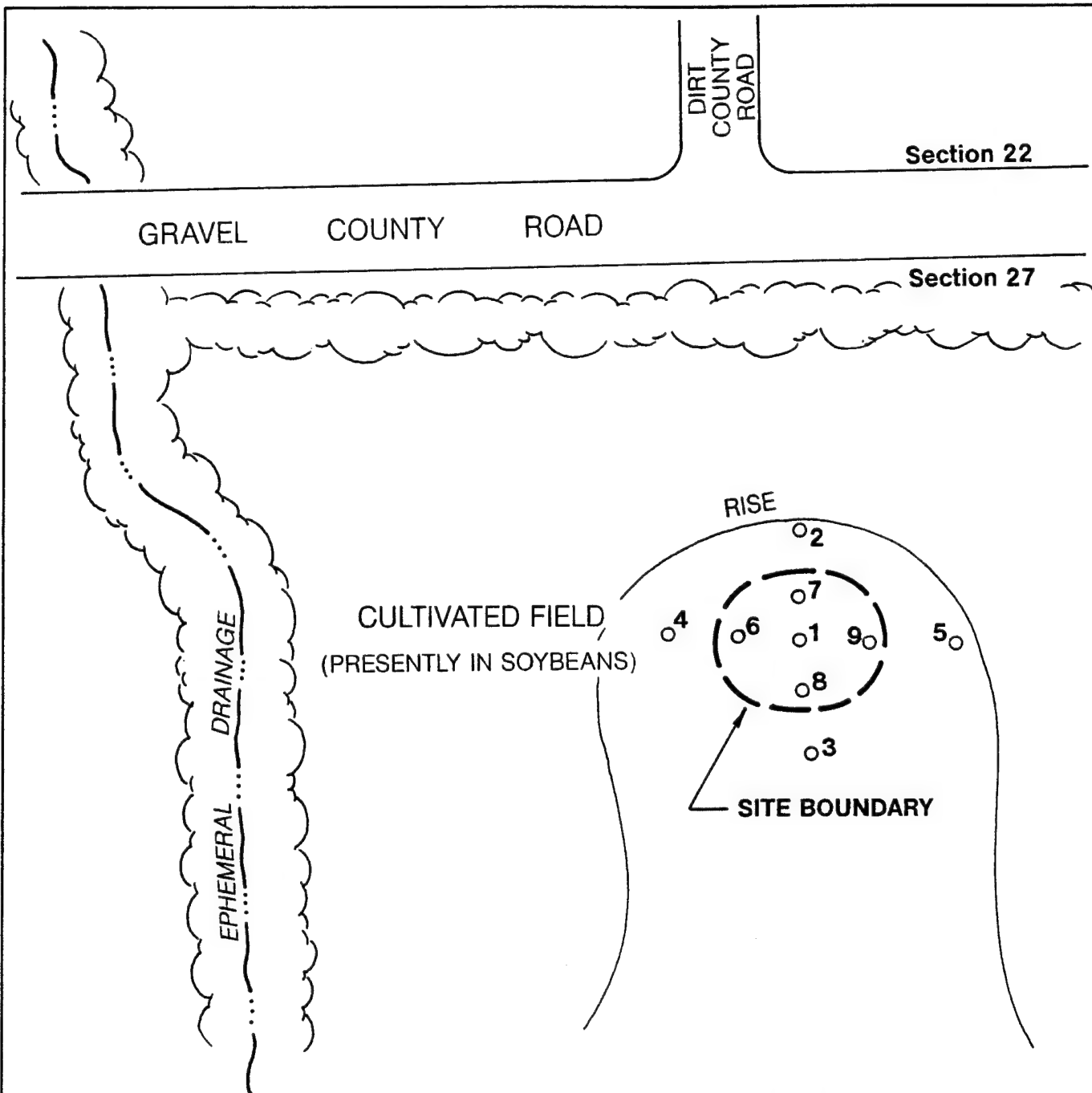
Observed material include five lithic flakes, two cores, and a few possible burnt rock fragments and sampled cobbles. No artifacts were collected. Nine shovel tests were conducted in the site area and vicinity but all were culturally sterile.

Based on the size of the site and the sparsity of the artifact assemblage, it is suggested that this site probably represents an ephemeral usage of the location, possibly as a short-term campsite or resource procurement locale. The paucity of artifacts and the absence of diagnostic artifacts are not conducive to more intensive analysis, and it is unlikely that more intensive investigation would yield any significant new information. Therefore, Site 14LY104 is not thought to be eligible for the NRHP. No further investigation is thought to be warranted or is recommended.

14LY105

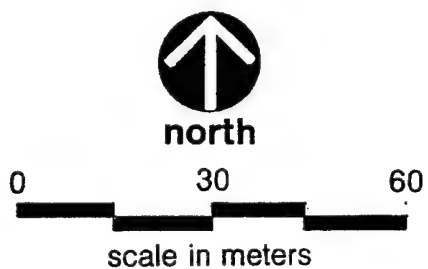
Site Name: None
Cultural Affiliation: Prehistoric--Undetermined
Topographic setting: River terrace
Parent material: Formed in silty or loamy alluvial sediments
Drainage: Marais des Cygnes River
Recording agency: Espey, Huston & Associates, Inc., Austin, Texas
Site size: 1785 m²: 65 m east-west by 35 m north-south
Surface visibility: Approximately 60 percent
Slope: 0-2° to the south-southeast
Surface vegetation: Soybeans when recorded
Date of investigation: 18 August 1993
Land-use: Under cultivation when recorded
Elevation: 1,060 ft (323 m)

Site 14LY105 consists of a lithic scatter on the surface of a cultivated soybean field above the Marais des Cygnes River (Figure 12). The soil is classified by the USDA-SCS (1981) as Ivan silt loam, formed since the latter part of the mid-Holocene period (ca. 2,500 BP) and until the present time. The surface soil consisted of a dark grayish brown silty clay loam which extended to the base of the a depth of approximately 25 cm and probably represents the historic plow zone.



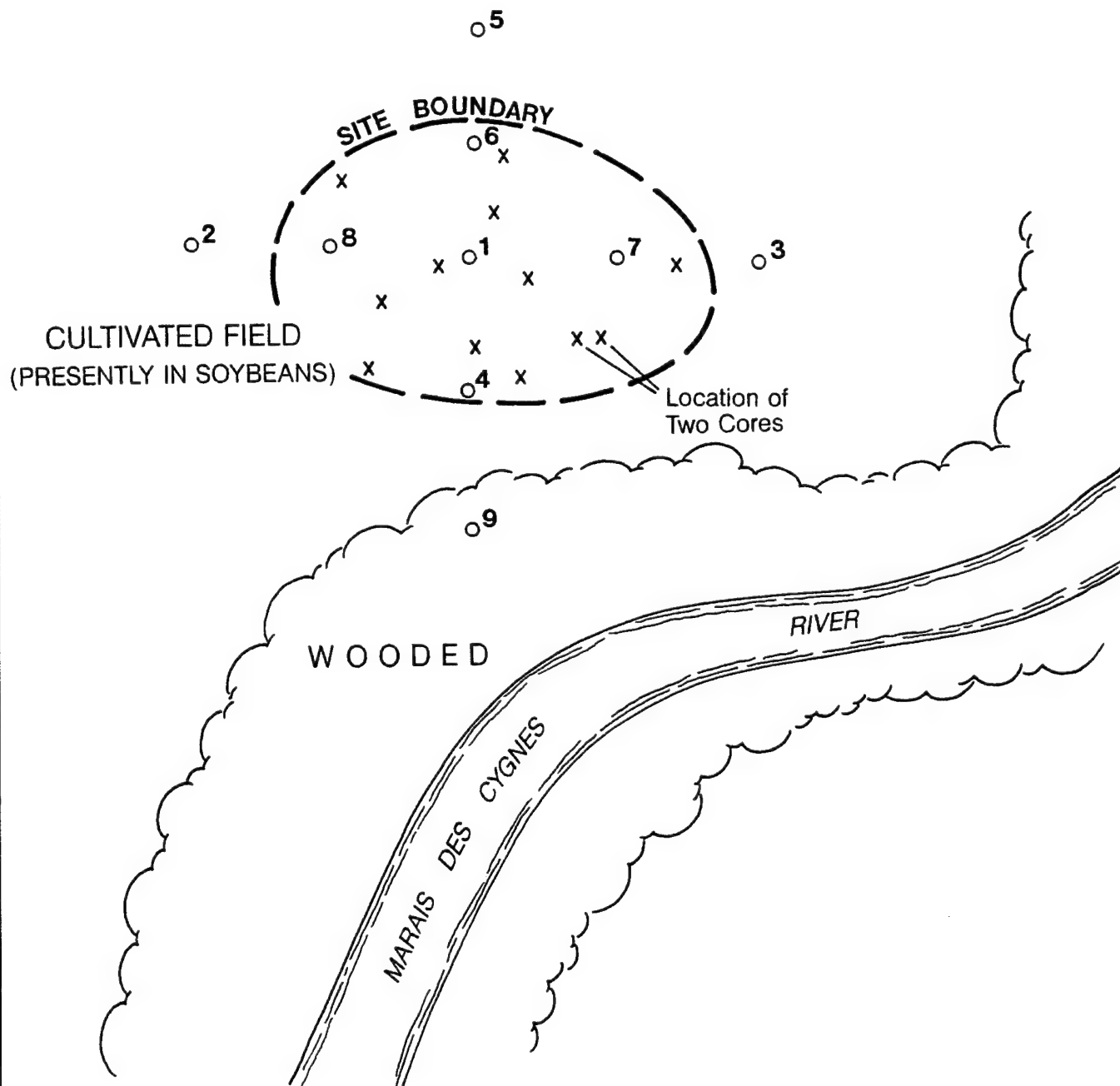
Note: Artifacts were evenly distributed across the site.

○ Negative Shovel Test



EH&A Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 11
MAP OF
SITE 14LY104



o Negative Shovel Test

x Lithic Artifact



north

0 30 60
scale in meters

EH&A Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 12

MAP OF
SITE 14LY105

ESPEY, HUSTON & ASSOCIATES, INC.

Below about 25 cm in depth, a dark grayish brown silty clay loam was encountered which could be distinguished from the upper zone in that slightly less identifiable organic matter was present.

The Marais des Cygnes River is located approximately 30 m to the southeast of the site. At the present time, the river is deeply channelized and runs 7-8 m below the site elevation. The proximity to an immediate source of fresh water and other aquatic resources may have been a primary consideration in the site selection process.

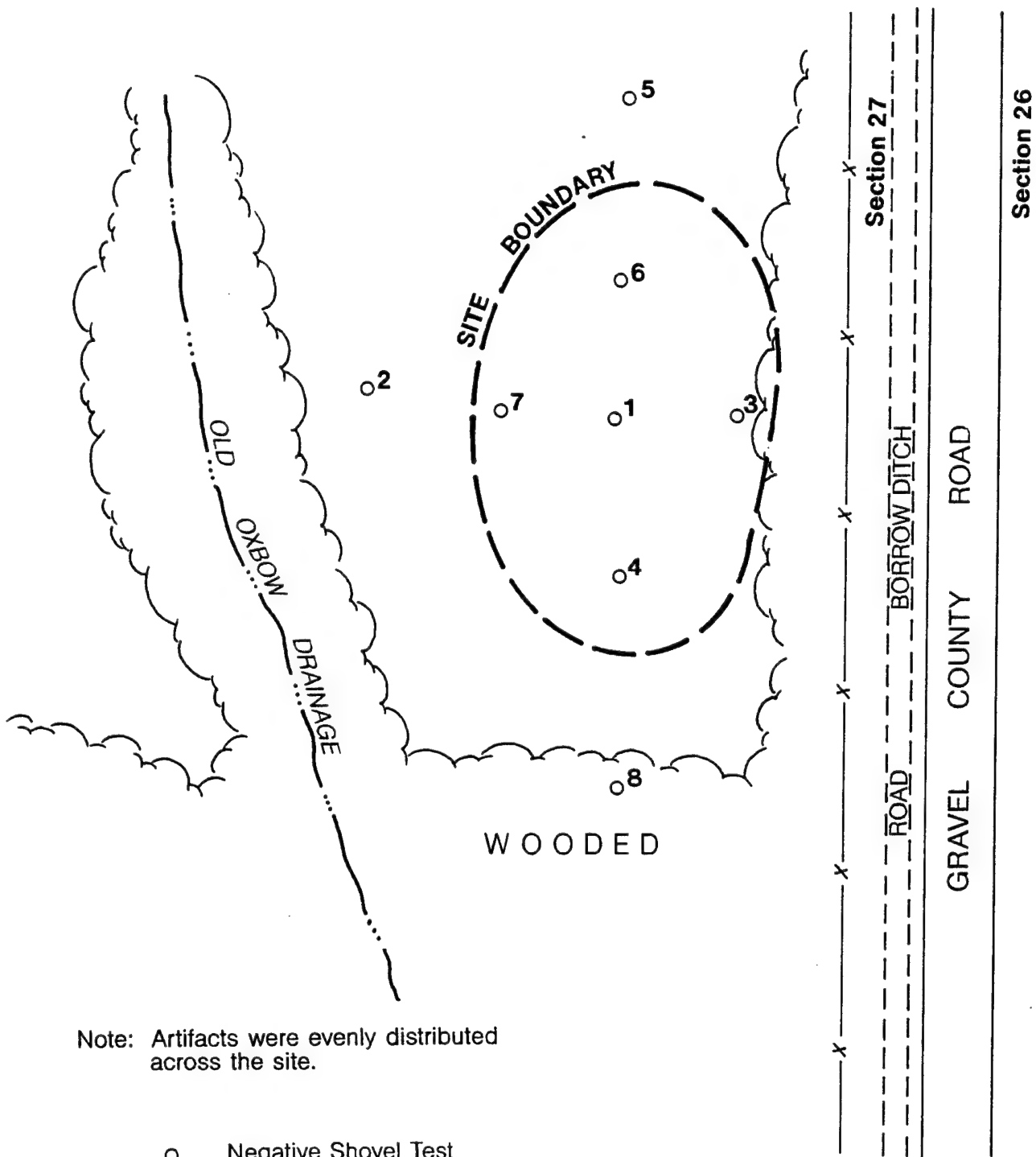
Only 15 lithic artifacts were observed, including two bifacial fragments (Figure 10b, c), two cores, and 11 lithic flakes. All were located on the ground surface and two bifacial fragments were collected. Nine shovel tests were conducted in the site area and vicinity (Figure 12). All proved to be culturally sterile. In terms of site function, although no definitive assessment is possible based on the available data. It is possible that the site represents ephemeral usage of the area by one or more cultural occupations.

The site is not thought to be eligible for the NRHP for the following reasons. No features or areas of specific functional activity could be identified. The paucity of artifacts and the absence of temporally diagnostic artifacts is not conducive to more intensive analysis. All observed artifacts were located on the surface in a context that has been heavily disturbed by historic and recent agriculture. No further investigation is thought to be warranted.

14LY106

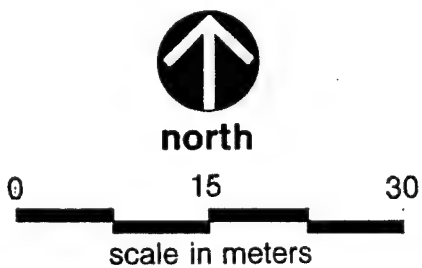
Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined
Topographic setting:	River terrace
Parent material:	Formed in silty or loamy alluvial sediments
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	630 m ² : 20 m east-west by 40 m north-south
Surface visibility:	Approximately 60 percent
Slope:	0-4° to the south
Surface vegetation:	Soybeans when recorded
Date of investigation:	20 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

Site 14LY106 consists of a sparse surfacial lithic scatter in a cultivated field. It is situated adjacent to a broad shallow drainage located about 40 m to the west-southwest (Figure 13). This drainage appears to be a paleomeander of the Marais des Cygnes River. The river is about 120 m to the south. The proximity of the oxbow suggests that the site may have been utilized when the oxbow was an active channel.



Note: Artifacts were evenly distributed across the site.

○ Negative Shovel Test
 —x— Fence



E&A Espey, Huston & Associates, Inc.
 Engineering & Environmental Consultants

Figure 13
 MAP OF
 SITE 14LY106

The soil is classified by the USDA-SCS (1981) as Ivan silt loam, formed since the latter part of the Holocene epoch and until the present time. The surface soil to a depth of 20-25 cm was a medium brown silty clay loam, probably representing the historic plowzone. The underlying zone is a compact dark brown clay loam.

Observed cultural material includes about 20 chert lithic artifacts including a core and a possible utilized flake. All artifacts were located on the ground surface. Eight shovel tests were conducted in the site area and vicinity but yielded no artifactual material. No artifacts were collected. The size of the site and the sparseness of cultural material is consistent with usage of the location as a short-term campsite or resource procurement locale.

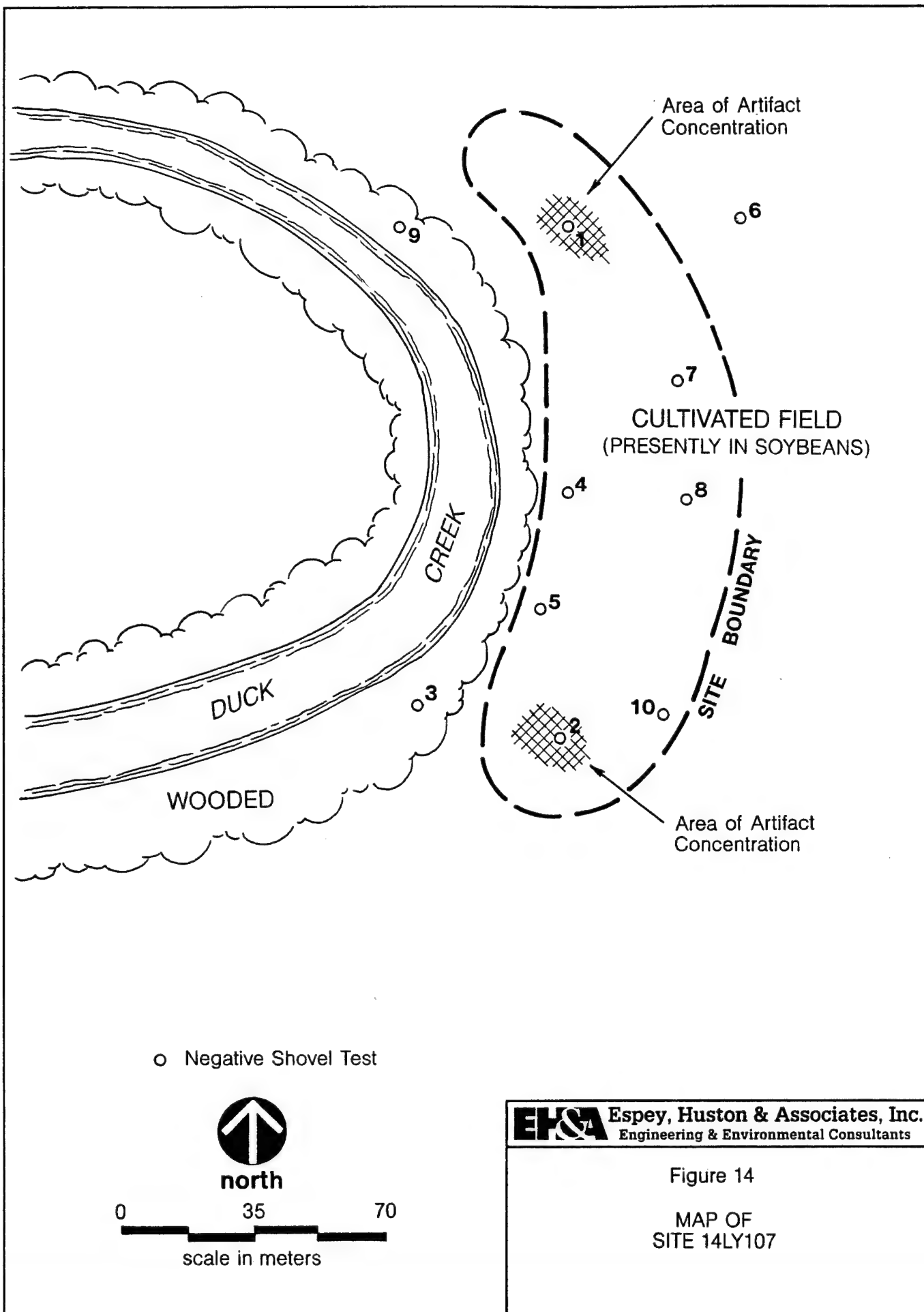
Site 14LY106 is not thought to be eligible for the NRHP for the following reasons. The artifact density is relatively sparse, particularly for diagnostic artifacts, limiting the analytical potential of the assemblage. All recovered artifacts were from the surface, suggesting that the site is relatively shallow. It has been heavily impacted by past and ongoing agricultural practices, greatly limiting the possibility of intact features or cultural deposits. Therefore, no further investigation is thought to be warranted or is recommended.

14LY107

Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined
Topographic setting:	River terrace
Parent material:	Formed in silty and loamy alluvial sediments
Drainage:	Duck Creek
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	4000 m ² : 35 m east-west by 150 m north-south
Surface visibility:	Approximately 75 percent
Slope:	about 2° to the west
Surface vegetation:	Soybeans when recorded
Date of investigation:	23 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

Site 14LY107 consists of a large, relatively sparse surfacial lithic scatter in a cultivated field. It is located adjacent to Duck Creek, a small but deeply entrenched perennial stream (Figure 14). The Marais des Cygnes River, at its nearest point, is located some 250 m to the north-northeast. Situated at the edge of the creek bank along the western edge of the site is a small man-made levee approximately 1.5 m in height and 4 m in width. Mature hardwood trees growing out of the levee suggest that the feature is at least 30 years in age. The levee appears to have been formed by scraping a topsoil from the adjacent portion of the field, so it probably resulted in a significant impact to the site.

The site is located on soil classified as Ivan silt loam by the USDA-SCS (1981). Ivan soils are part of the late Holocene to historic-aged floodplain of the Marais des Cygnes River and tributary drainages such as Duck Creek. The soil stratigraphy at the site included a dark brown clay



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Figure 14
MAP OF
SITE 14LY107

ESPEY, HUSTON & ASSOCIATES, INC.

loam surface soil to a depth of about 30 cm. Beneath this zone, the soil gradually changes to a compact strong brown clay loam.

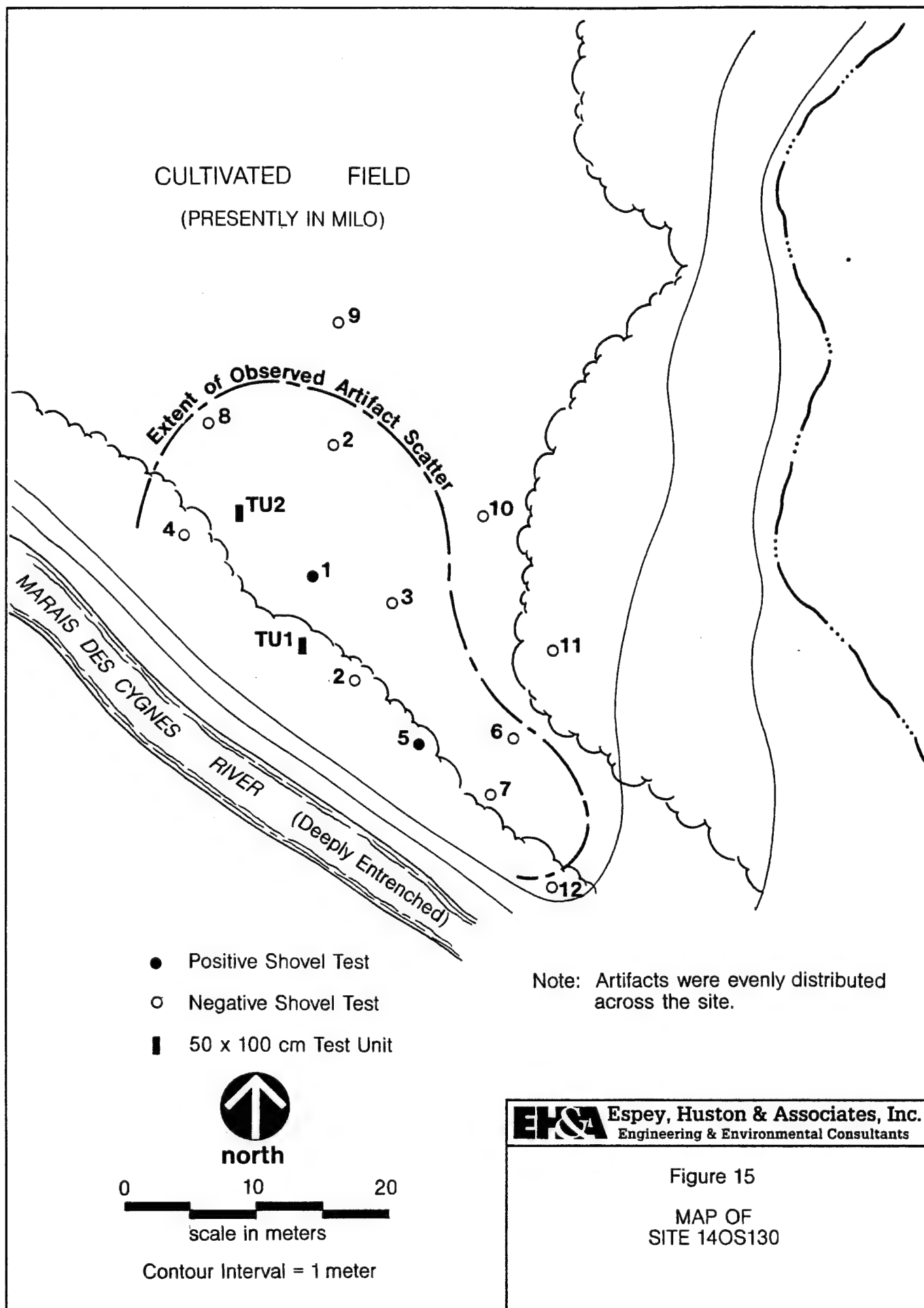
The subsurface potential of the site was investigated by 10 shovel tests. All of these tests proved to be culturally sterile. The observed surface manifestation of the site consisted of approximately 80 lithic artifacts. Two areas of relative artifact concentration were observed at the northern and southern ends of the site (Figure 14). Both areas were about 15 m in diameter and yielded about 50 percent of the observed material. The observed site assemblage was predominantly chert debitage including three randomly flaked cores with few cortical flakes or fragments. The only non-debitage artifact observed was the tip of a point artifact. No artifacts were collected.

The site is not thought to be eligible for the NRHP. It appears to be a shallow manifestation and any intact deposits or features which may have been represented have probably been heavily impacted by levee construction and past and ongoing agricultural usage. The artifact assemblage yielded few diagnostic artifacts and more intensive analysis would probably yield only minimal additional information. Therefore, no further investigation is thought to be warranted or is recommended.

14OS130

Site Name:	None
Cultural Affiliation:	Prehistoric--Early Ceramic Period
Topographic setting:	River terrace
Parent material:	Formed in silty alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	625 m ² : 25 m east-west by 40 m north-south
Surface visibility:	Approximately 80 percent
Slope:	0-4° generally to the southeast
Surface vegetation:	Sorghum when recorded
Date of investigation:	7 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,065 ft (325 m)

This site consists of a small, relatively sparse lithic scatter with some limited subsurface potential. It is situated on a gentle southeastern sloping interfluvium between the Marais des Cygnes River and an unnamed seasonal tributary (Figure 15). The river is situated about 5 m below and immediately southwest of the site. The seasonal stream is located about 25 m to the east-southeast down a broad moderate slope. The slope of the site location ranges from nearly level in the northern part of the site to approximately 8 percent at the southern end of the site.



The site is located on soil classified as Verdigris silt loam by the USDA-SCS (1985). Verdigris soils are part of the late Holocene to historic-aged floodplain of the Marais des Cygnes River and tributary drainages. The soil stratigraphy of the location exhibited a dark brown to dark grayish brown clay loam surface soil which extended to a depth of approximately 18 cm and probably represents the historic plowzone (Figure 16). Beneath this surface zone, the soil is a clay loam but noticeably lighter and more compact, ranging in hue from a pale brown to a brown.

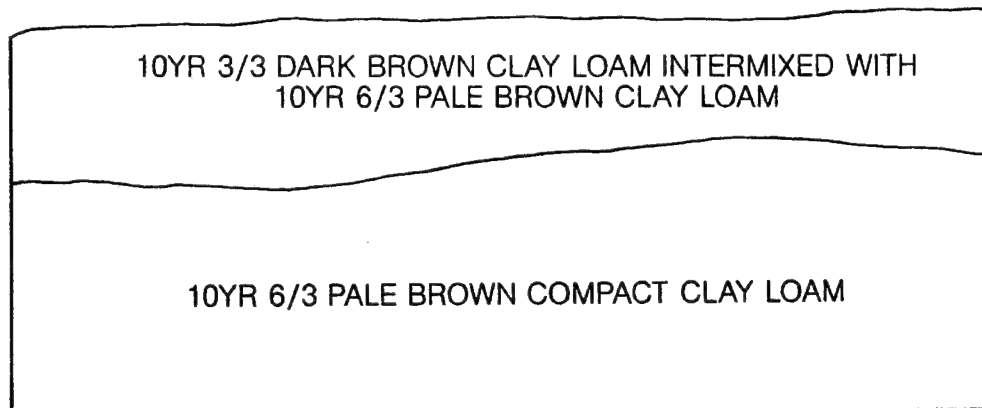
Artifacts observed on the ground surface were entirely lithic material. The immature sorghum afforded excellent visibility (Figure 17) and the observed assemblage numbered approximately 50 artifacts, including five cores, three rudimentary bifacial tools (Figure 18c), a medial fragment of a bifacial knife (Figure 18d), and a point similar to the *Scallorn* type (Figure 18a). The subsurface potential of the site was investigated by 12 shovel tests in the area of observed surface artifacts and the surrounding area. Two artifacts were recovered in the shovel testing program including another *Scallorn*-like point (Figure 18b). Because two of the shovel tests yielded limited prehistoric material, two small excavation units (50 x 100 cm) were placed at the site. Excavation of these two units yielded a total of only three lithic artifacts (Table 1).

Subsurface investigations produced relatively sparse remains to a depth of 40 cm. Twelve shovel tests and one m² of additional excavation yielded five prehistoric artifacts. The two *Scallorn*-like points located at the site suggest a probable Early Ceramic Period date (ca. 2,000-1,100 BP) for the site. The lack of ceramic material and general paucity of artifacts might suggest a ephemeral function for site 14OS130, possibly as a hunting camp. Twenty artifacts were collected including the two *Scallorn*-like points, two biface fragments, three cores, 12 flakes, and a hematite fragment (Table 1).

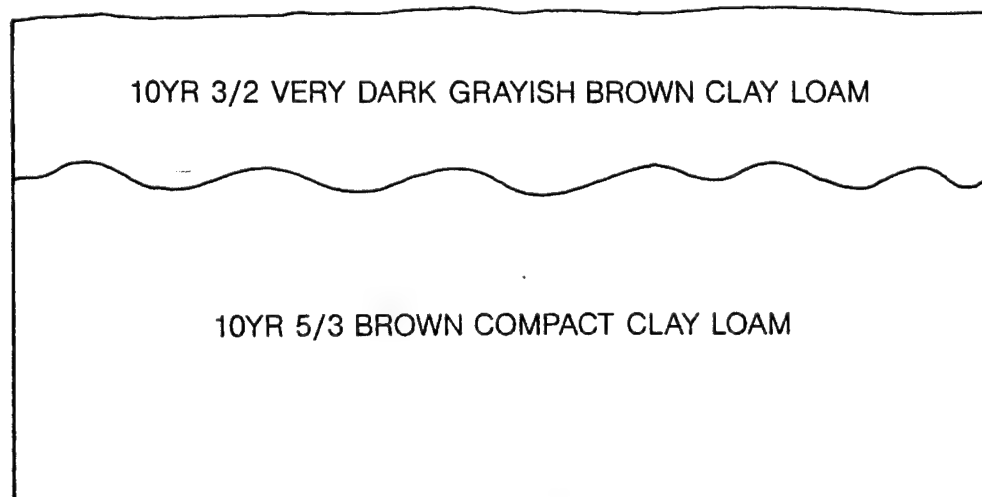
Site 14OS130 is thought to be potentially eligible for the NRHP. Although the recovered remains from subsurface excavations appear sparse, a possibly intact cultural deposit is present at the site below the disturbed plowzone. It is likely that, with more intensive investigation, significant additional information which could add to our understanding of prehistoric lifeways might be gained. If so, the site would be eligible for the NRHP under criterion d. Avoidance or NRHP testing is recommended.

14OS132

Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined
Topographic setting:	River terrace
Parent material:	Formed in alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	315 m ² : 10 m east-west by 20 m north-south
Surface visibility:	Approximately 75 percent
Slope:	0-2° to the northwest
Surface vegetation:	Soybeans when recorded
Date of investigation:	11 August 1993



TEST UNIT 1 (50 X 100 CM) WEST WALL PROFILE



TEST UNIT (50 X 100 CM) WEST WALL PROFILE

0 25
scale in centimeters

A scale bar is shown with '0' at the left end and '25' at the right end, with a horizontal line connecting them. Below the bar is the text 'scale in centimeters'.

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Figure 16
SITE 14OS130
TEST UNIT PROFILES



Figure 17: Site 14OS130 viewed to northwest.

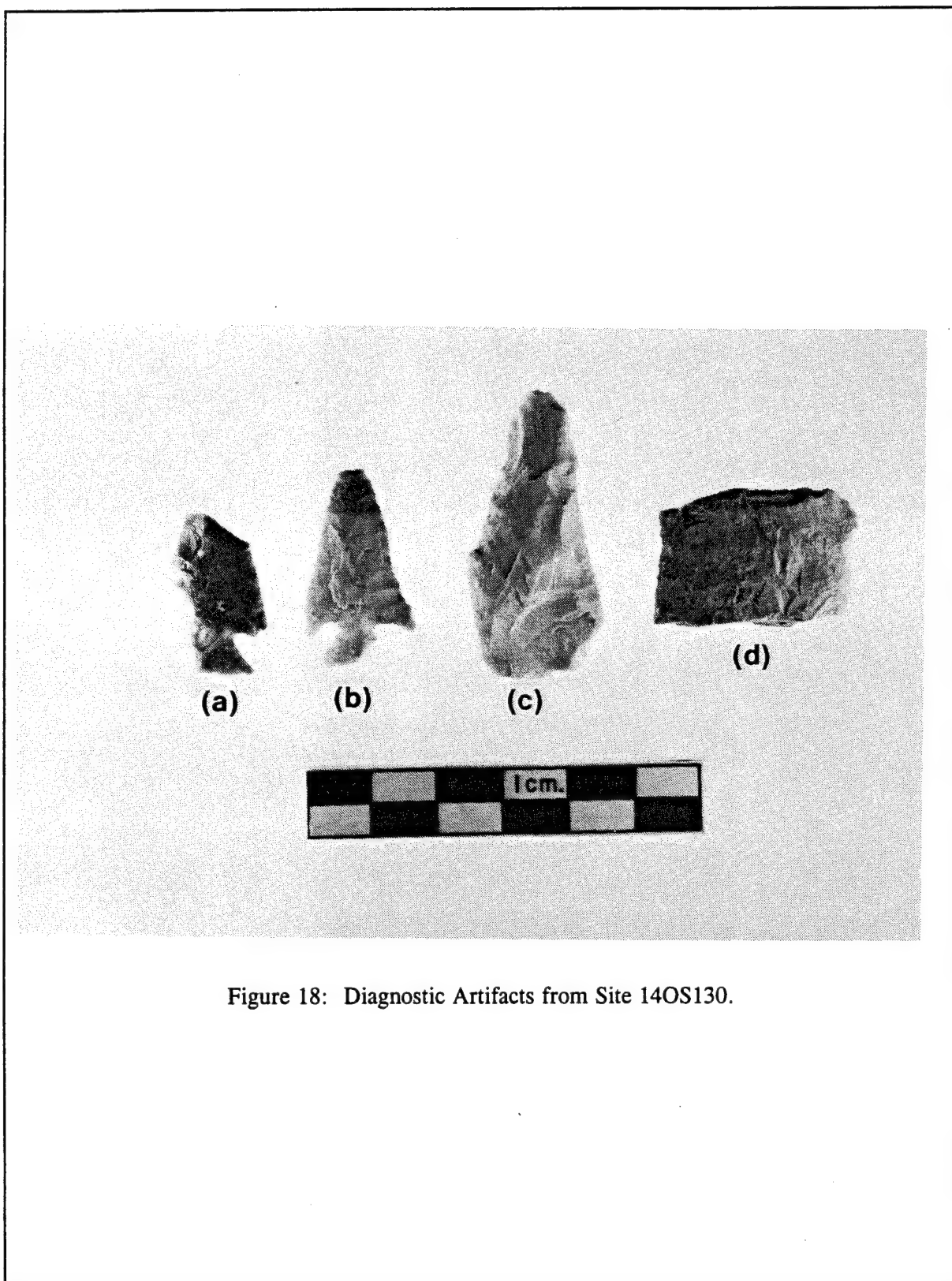


Figure 18: Diagnostic Artifacts from Site 14OS130.

TABLE 1: LOCATED ARTIFACTS FROM SITE 140S130

UNIT	LEVEL	DEPTH	Scallorn- like point	chert biface	chert core	chert secondary flake	chert tertiary flake	red hematite fragment	TOTAL
SHOVEL TESTS									
1	1	0-10 cm							0
1	2	10-20 cm							0
1	3	20-30 cm	1						1
1	4	30-40 cm							0
2	all								0
3	all								0
4	all								0
5	1	0-10 cm							0
5	2	10-20 cm						1	1
5	3	20-30 cm							0
5	4	30-40 cm							0
6	all								0
7	all								0
8	all								0
9	all								0
10	all								0
11	all								0
12	all								0
50-x 100-CM TEST UNITS									
1	1	0-10 cm							0
1	2	10-20 cm		1					1
1	3	20-30 cm							0
1	4	30-40 cm							0
2	1	0-10 cm				1			1
2	2	10-20 cm							0
2	3	20-30 cm							0
2	4	30-40 cm					1		1
SURFACE COLLECTION									
			1	1	3	2	8		15
SITE TOTAL			2	2	3	3	9	1	20

14884/940488

ESPEY, HUSTON & ASSOCIATES, INC.

Land-use: Under cultivation when recorded
Elevation: 1,060 ft (323 m)

Site 14OS132 consists of a small, discrete scatter of lithic scatter located on a terrace near an unnamed seasonal stream within an area of approximately 10 by 20 m (Figure 19). The nearest permanent source of water is the Marais des Cygnes River located approximately 650 m to the southwest.

The soil of the site location is classified as Verdigris silt loam, channeled (USDA-SCS 1985). This is a well-drained soil characteristic of upland drainages dissected by meandering channels. Verdigris soils are part of the late Holocene to historic-aged floodplain of the Marais des Cygnes River and tributary drainages.

The observed artifact assemblage consisted of five chert artifacts, including four tertiary flakes and one secondary flake. All were observed in a surface context and no artifacts were collected. The potential for intact subsurface cultural deposits or features was investigated by 10 shovel tests, none of which yielded any cultural material or suggestion of cultural deposition. The stratigraphy encountered in shovel tests was a relatively uniform dark brown to dark grayish brown silt loam, becoming slightly more compact at a depth of approximately 20 cm.

The site may be a small campsite or resource procurement local or activity area ancillary to a nearby larger site. It is not thought to be eligible for the NRHP due to the paucity of artifacts, the lack of diagnostic artifacts, the apparent surficial nature of the site and past disturbance from agricultural activity. No further investigation is thought to be warranted or is recommended.

14OS139

Site Name: None
Cultural Affiliation: Prehistoric--Undetermined
Topographic setting: River terrace
Parent material: Material weathered from shale
Drainage: Coal Creek
Recording agency: Espey, Huston & Associates, Inc., Austin, Texas
Site size: 2500 m²: 40 m east-west by 75 m north-south
Surface visibility: Approximately 70 percent
Slope: 2-8° to the east and southeast
Surface vegetation: Soybeans when recorded
Date of investigation: 18 September 1993
Land-use: Under cultivation when recorded
Elevation: 1,060 ft (323 m)

This site consists of a relatively large sparse surface lithic scatter. It is located in a soybean field on the edge and slope of an upland terrace (Figure 20). The nearest source of water to aboriginal inhabitants is Coal Creek, a small perennial stream located about 150 m to the south-southeast at its nearest point. The soil of the vicinity is classified as an Eram silty clay, part of the Kenoma-Woodson association. Eram soils are Tertiary-aged alluvial formations characteristic of

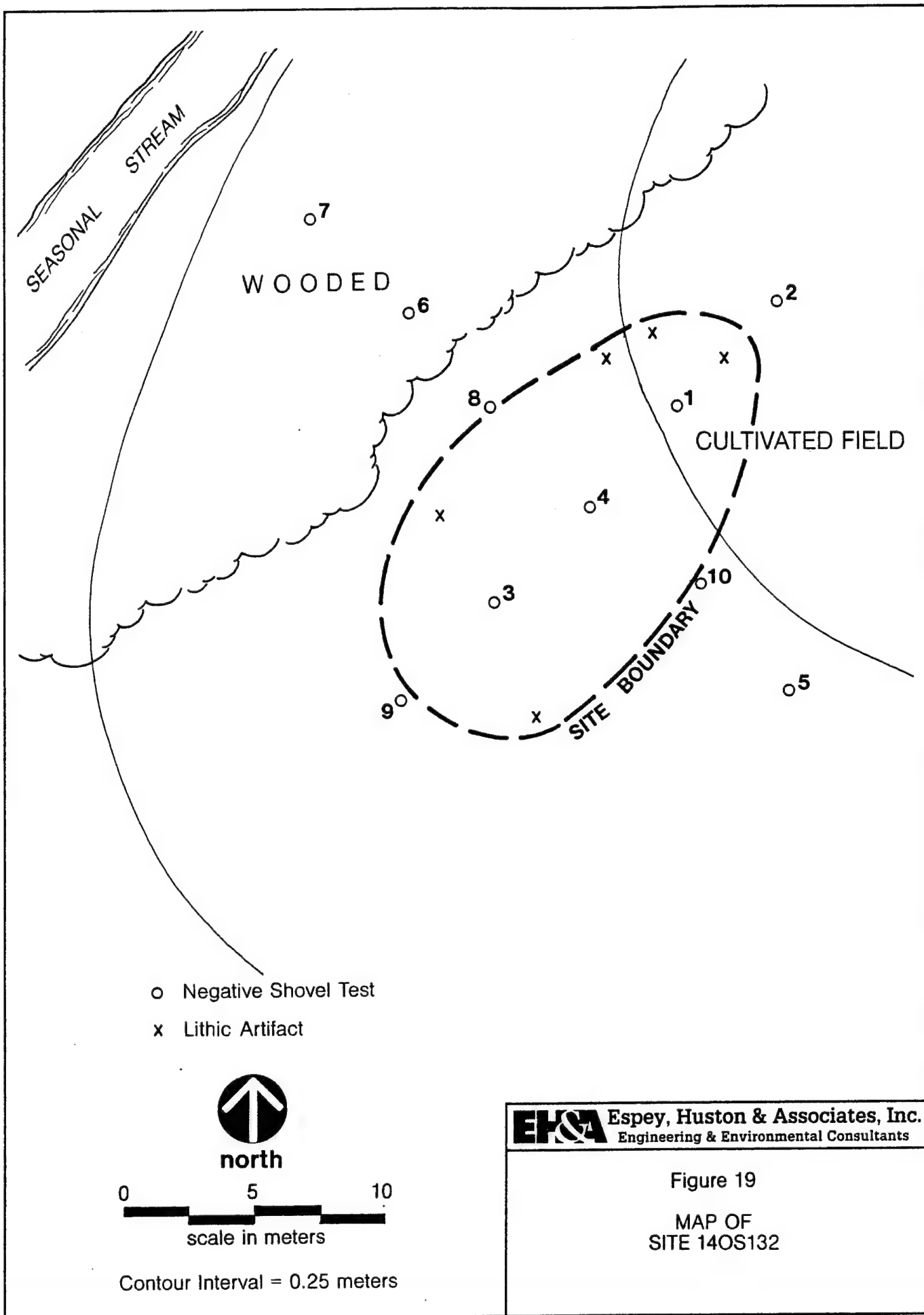




Figure 20: Site 14OS139 viewed to west.

upland terraces of the area. The soil consists of a gray clay which extends to a depth of approximately 40 cm. Beneath this depth, a brownish gray clay loam was noted.

Visibility of the site area was excellent and approximately 65 to 75 lithic artifacts were observed. The only other cultural material noted were about five fire-reddened chert cobbles randomly situated over the site area. Eleven shovel tests were conducted at the site but all were culturally sterile. A representative sample of fifteen lithic debitage fragments were collected from a surface context. They include 13 tertiary flakes and two secondary flakes, all of chert.

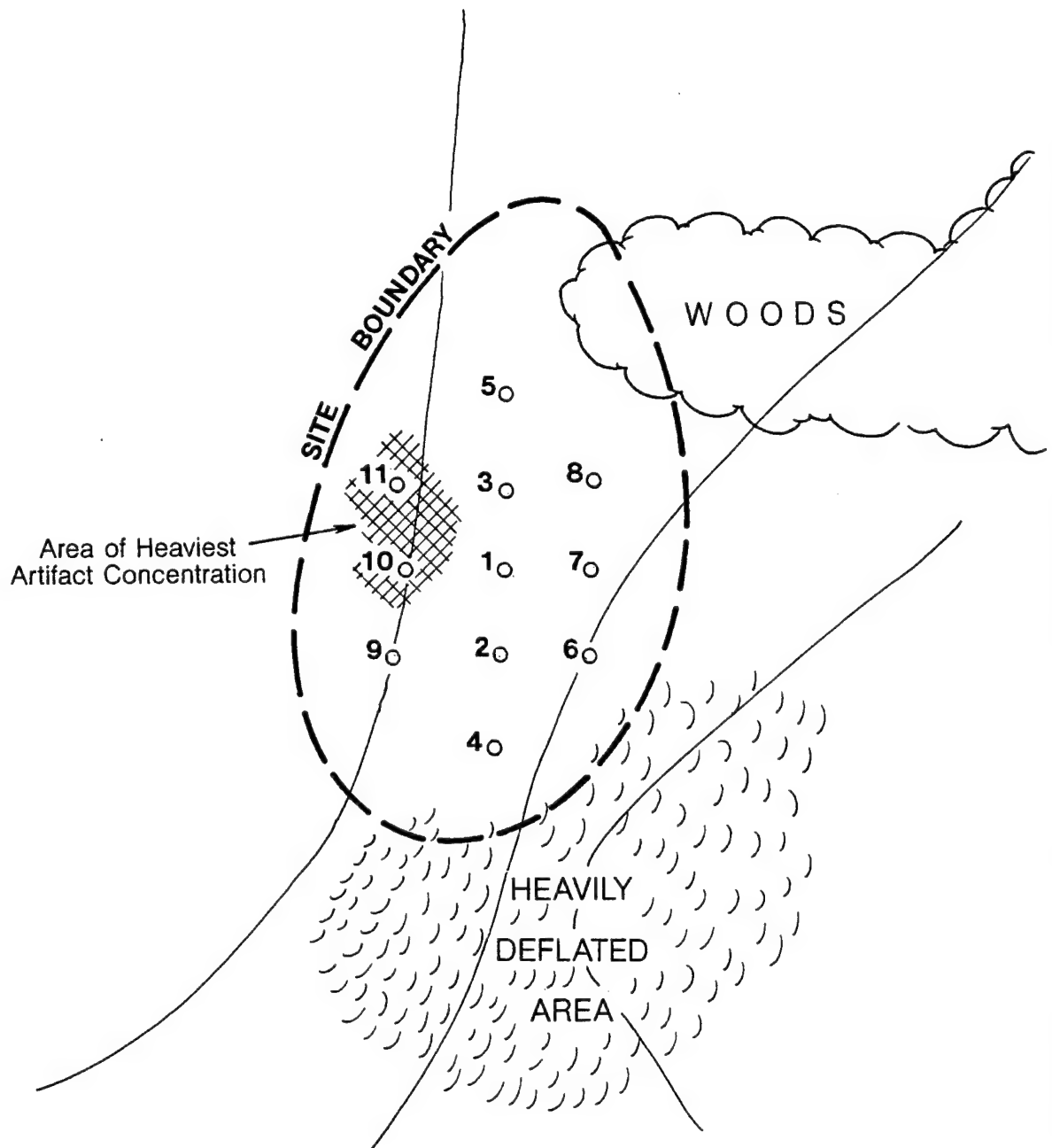
An area of high artifact concentration was noted in the western central part of the site area (Figure 21). This area is approximately 20 by 15 m in area and contained approximately one third of the observed artifactual material. This area's situation at the very edge of the terrace suggest that it might be the original cultural activity location and that the rest of the artifact scatter might be the result of smearing by cultivation and colluvial slumping down the terrace slope, however, this assessment is very speculative. The size of the site and the paucity of material suggests possible usage as a short-term campsite.

Site 14OS139 is not thought to be eligible for the NRHP for the following reasons. The lack of cultural material other than debitage and burnt rocks greatly limits the site's potential to yield additional information from artifact analysis. The depositional history of the location and the absence of cultural material from shovel tests strongly indicates that the site is a surface manifestation. As such, it has been heavily impacted by cultivation and erosion such that little spatial integrity remains. No further investigation is thought to be warranted.

14OS142

Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined
Topographic setting:	River terrace
Parent material:	Alluvium
Drainage:	Coal Creek
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	925 m ² : 20 m east-west by 30 m north-south
Surface visibility:	Approximately 95 percent
Slope:	0-2° to the east
Surface vegetation:	Oats, just sprouting during recordation
Date of investigation:	21 September 1993
Land-use:	Under cultivation when recorded
Elevation:	1,065 ft (325 m)

Site 14OS142 consists of a sparse lithic scatter on the surface of a cultivated field above Coal Creek, a small perennial stream located about 160 m to the west-southwest. The site location is situated at the interface of two soil types, Kenoma silt loam and Woodson silt loam (USDA-SCS 1985). Both types are part of the Kenoma-Woodson association which consists of Tertiary-aged alluvial formations. The observed stratigraphy consists of a dark gray clay loam



○ Negative Shovel Test



north

0 20 40

scale in meters

Contour Interval = 1 meter

EH&A Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 21

MAP OF
SITE 14OS139

ESPEY, HUSTON & ASSOCIATES, INC.

plowzone 15 to 20 cm in thickness which overlies an extremely compact orange and yellow mottled clay subsoil.

Visibility of the site area was excellent and approximately 20 lithic artifacts were observed. All were larger flakes of a light gray to dark gray chert, approximately evenly split between secondary and tertiary flakes. Eight shovel tests were conducted at the site but all were culturally sterile (Figure 22). No diagnostic artifacts were observed and none of the artifacts were collected. Based on the paucity of remains, it appears likely that the site represents an ephemeral usage of the location, possibly as a short-term campsite or special activity area or resource procurement locale ancillary to a larger site along Coal Creek.

Site 14OS142 is not thought to be eligible for the NRHP due to the surficial nature of deposits and the disturbance to the cultural component from agricultural activity. The depositional history of the location makes it very unlikely that intact subsurface cultural deposits or features are present at the site. No further investigation is thought to be warranted or is recommended.

Historic Sites

14OS129

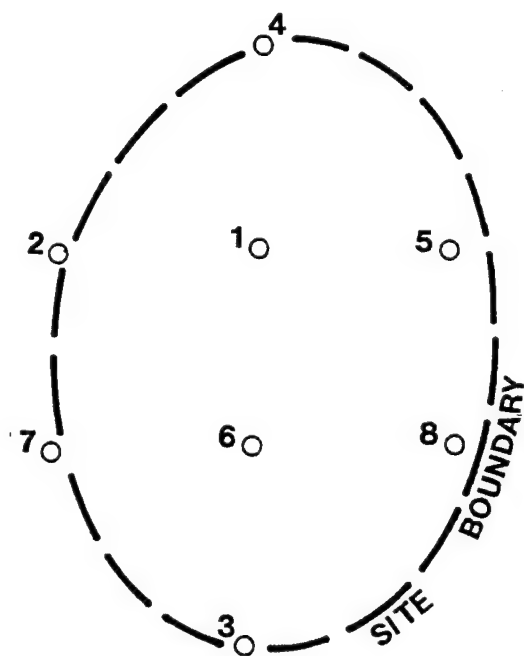
Site Name:	None
Cultural Affiliation:	Historic--twentieth century Euro-American, ca. 1925-1955
Topographic setting:	River terrace
Parent material:	Formed in silty alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	750 m ² : 30 m east-west by 30 m north-south
Surface visibility:	Approximately 40 percent
Slope:	2-6° to the north
Surface vegetation:	Riverine hardwood timber and undergrowth
Date of investigation:	4 August 1993
Land-use:	Abandoned, not in use when recorded
Elevation:	1,060 ft (323 m)

This site is the remnant of a historic domestic location. The site is located on a wooded terrace above and about 140 m southwest of the Marais des Cygnes River. Immediately adjacent to the site is the section line county road that separates Osage and Lyon counties (Figure 23).

Observed artifactual remains include a partially filled well or cistern, the remnant of a poured concrete foundation, a straight alignment of holly trees that probably represented the backyard fence, a dump area which appears to have been used until relatively recent times, and a scatter of historic material over the site area, including a number of broken clear glass canning jars and condiment bottles, remains of sanitary cans, beverage bottles and cans, late refined earthenware ceramic fragments, and aerosol cans. Plastic containers were common but primarily limited to a small ongoing dumping area at the northeastern edge of the site.

UNCULTIVATED

CULTIVATED



FIELD

Note: Artifacts were evenly distributed across the site.

UNCULTIVATED

○ Negative Shovel Test



north

0 10 20

scale in meters

EHSA Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 22

MAP OF
SITE 14OS142

Section 34

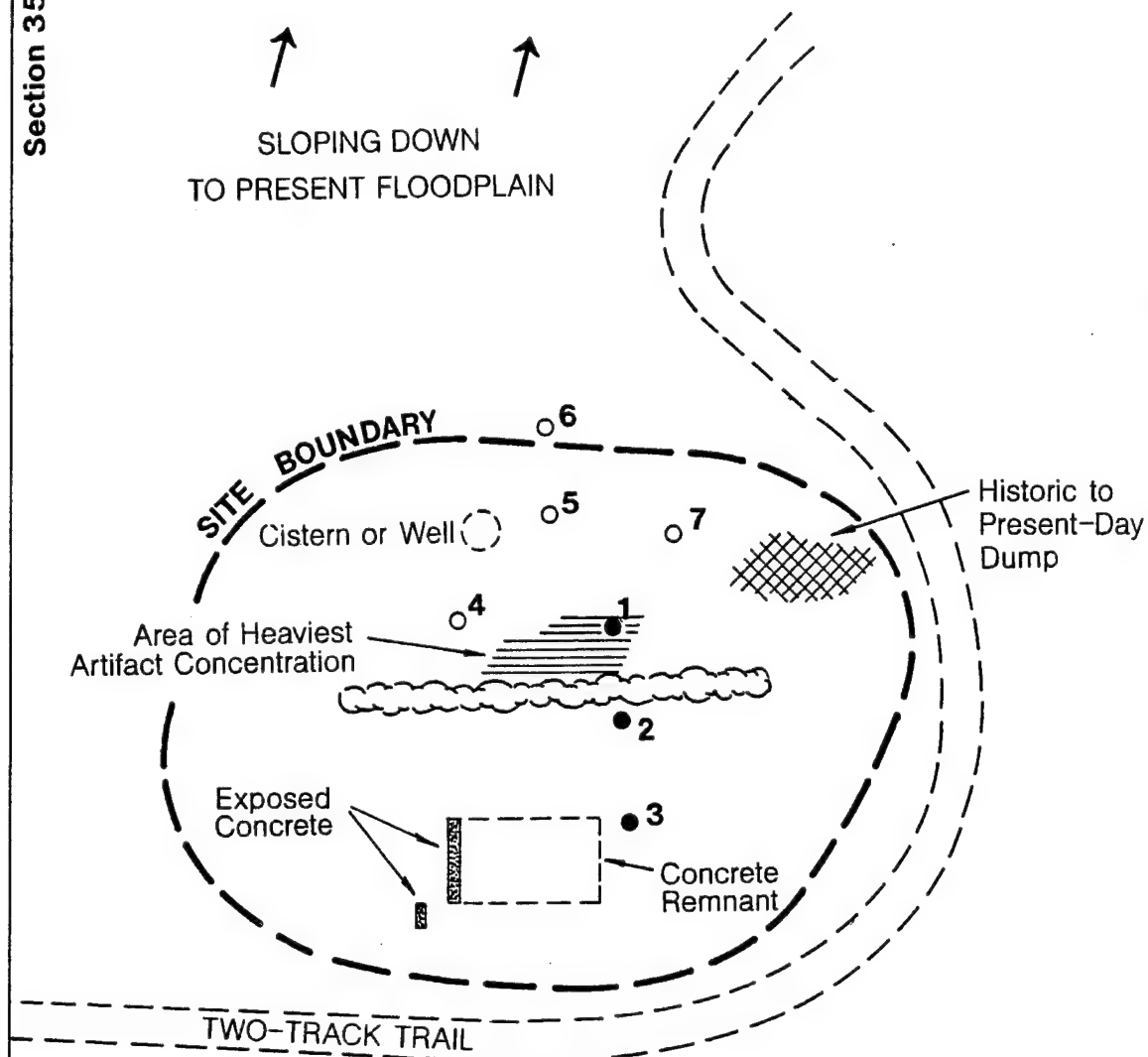
Section 35

ROAD

COUNTY

GRAVEL

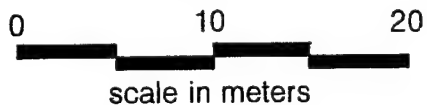
SLOPING DOWN
TO PRESENT FLOODPLAIN



- Positive Shovel Test
- Negative Shovel Test



north



Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 23

MAP OF
SITE 14OS129

ESPEY, HUSTON & ASSOCIATES, INC.

Seven shovel tests were conducted at the site. Of these, four were negative and three yielded 37 historic artifacts to a depth of 30 cm (Table 2). These and observed surface artifacts suggests a probable twentieth century occupation of the area. A local farmer, Harry Price, informed field personnel that the location had been occupied by a relative, Ed Price, and his family from the 1920s until the late 1950s, at which time, the structure had been moved away (Price 1993). Mr. Price was unaware of any previous occupation prior to the Ed Price family. The observed and recovered artifactual material is generally consistent with this occupation period except for later material in the previously mentioned dump area and two aqua colored glass jar fragments (Table 2). Although aqua colored jars generally suggest a pre-1910 (Fike n.d.), their preservation and continued reuse for home canning is not at all inconsistent with early to mid-twentieth century domestic usage.

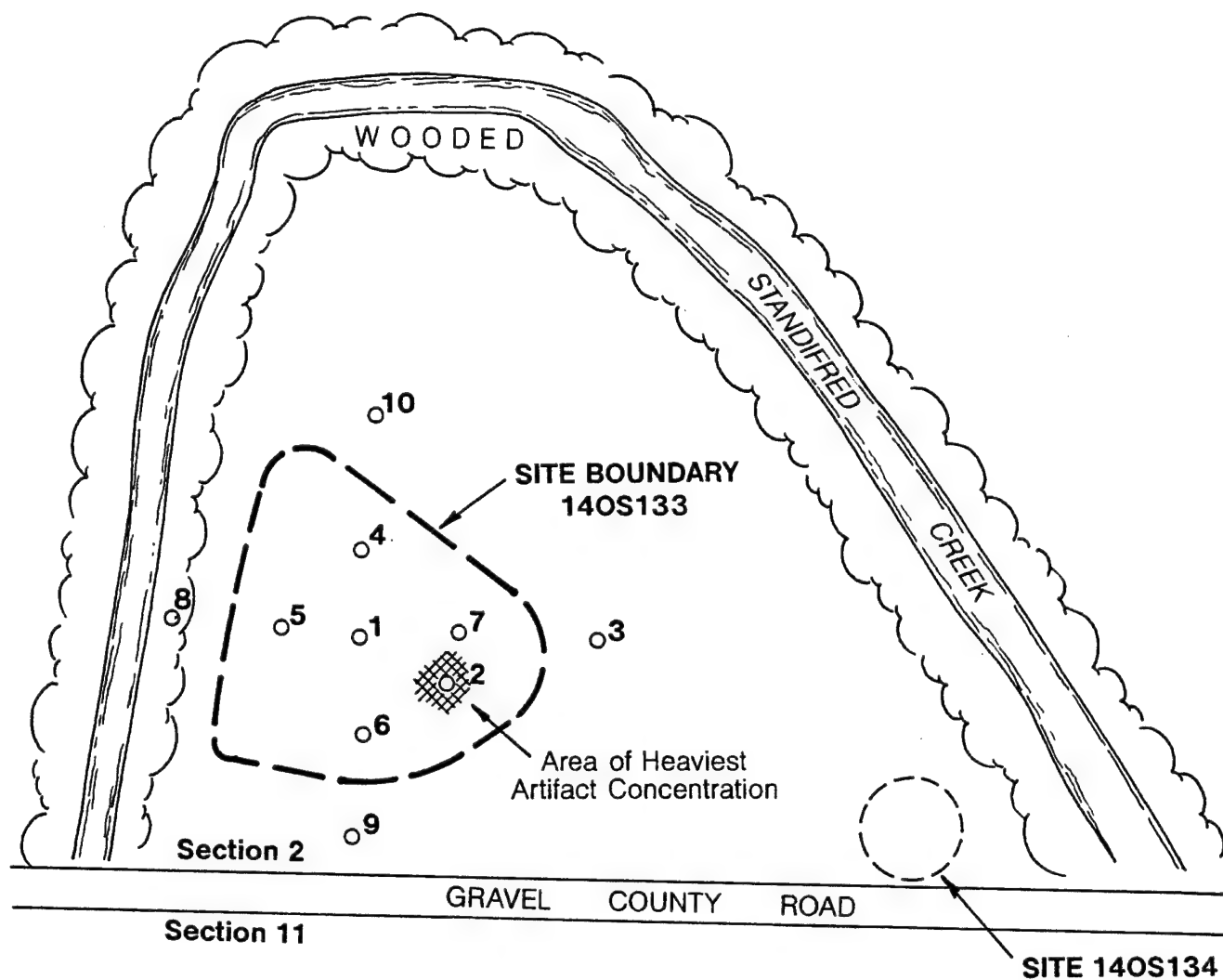
A review of deed records indicates that the property was originally patented in 1855 by D.R. Martin. No evidence of any residential occupation of the site appears on the 1861 GLO map of the area. The property was transferred to William P. Dole in 1866 and to David Nickel in 1867. Nickel retained the property until 1895 when it was transferred to James E. Hyde. It remained in the Hyde family until the Federal government acquired the property in 1970 for Melvern Lake (Osage County Deed Records, Lyndon).

The site is not thought to be eligible for the NRHP. Small residences/farmsteads of this period are relatively common in Kansas and generally unremarkable, and thus should not be considered NRHP eligible unless there is some significant historical event or some unique architectural feature associated with the site. With regard to the archaeological component, as many domestic structures exist from these periods, it is very unlikely that Site 14OS129, representing remains of a similar structure would be able to contribute significantly to our knowledge of domestic lifeways of these periods. Therefore, no further investigation is thought to be warranted or is recommended.

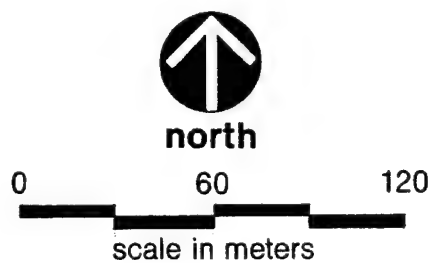
14OS133

Site Name:	None
Cultural Affiliation:	Historic--Late nineteenth to early twentieth century, ca. 1890-1930
Topographic setting:	River terrace
Parent material:	Material weathered from shale
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	6000 m ² : 75 m east-west by 100 m north-south
Surface visibility:	Approximately 60 percent
Slope:	0-6° to the west-northwest
Surface vegetation:	Soybeans
Date of investigation:	21 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,070 ft (326 m)

Site 14OS133 consists of a large scatter of late nineteenth to early twentieth century historic domestic debris. The site is situated on the edge of an older Tertiary terrace above Standifred Creek and the greater Marais des Cygnes floodplain (Figure 24). The soil is classified



○ Negative Shovel Test



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Engineering & Environmental Consultants

Figure 24
MAP OF
SITE 140S133

ESPEY, HUSTON & ASSOCIATES, INC.

as Elmont loam (USDA-SCS 1985). Elmont soils are Tertiary-aged alluvial formations characteristic of upland terraces of the area. As observed in the field, the soil consists of a medium brown clay loam surface soil approximately 20 cm in thickness overlying a dark brown compact clay subsoil.

Material observed include stoneware, ironstone, late refined earthenware, and semi-porcelain sherds; clear, brown, amber, aqua, amber, blue, and amethyst bottle glass fragments, brick fragments, and amorphous metal fragments. Approximately 200 artifacts were observed. Although artifacts were noted scattered over an area of roughly 6,000 m², one area of about 400 m² in the southeastern part of the site was observed to exhibit a greater artifact concentration and may represent the location of a dump location or former structure. The nature of the artifactual material is suggestive of a small farmstead. No evidence of a farmstead is shown on the 1861 GLO map of the area. The section line road located about 150 m south of the site was extant by 1886, based on the Osage County map of that year. Farmsteads were not shown on this 1886 map.

The potential for subsurface remains was investigated by 10 shovel tests in the site area and vicinity but all were culturally sterile. Thirty-three artifacts were collected from the surface. They include three fragments of an ornate amethyst glass vase, an amethyst bottle fragment, four brown glass bottle fragments, four aqua bottle fragments, one amber glass bottle fragment, three clear glass bottle fragments, two blue bottle fragments, one milkglass bottle fragment, six stoneware fragments, and eight late refined earthenware fragments.

A review of deed research shows that the property within which Site 14OS133 is located was patented by J. McManus in 1865. In 1870, it was sold to J.C and S.F. Jones. It remained in the Jones family until 1888 when Hiram Holt acquired the property. In 1893, Julia W. Holt transferred the property to T.J. Price. It remained in the Price family until the property was acquired by the Federal government in 1970 (Osage County Deed Records, Lyndon).

Based on the artifactual remains, the site appears to date to the 1880s or 1890s, until the early twentieth century, possibly as late as the 1930s. Thus, the site was clearly occupied during the Price ownership of the property and possibly occupied during the Holt and Jones ownership period. The paucity of observed building materials such as brick, foundation stones, and nails might indicate that structures were removed intact or salvaged rather than degrading in situ.

Site 14OS133 is not thought to be eligible for the NRHP. There is no evidence that any significant historical event is associated with the site. The site exhibits little potential for intact subsurface features or deposits as the site has been heavily impacted by historic and ongoing agricultural usage of the location. No further investigation is thought to be warranted or is recommended.

14OS135

Site Name:	None
Cultural Affiliation:	Historic--Late nineteenth to early twentieth century, ca. 1880-1930
Topographic setting:	River terrace
Parent material:	Material weathered from shale
Drainage:	Puleston Creek

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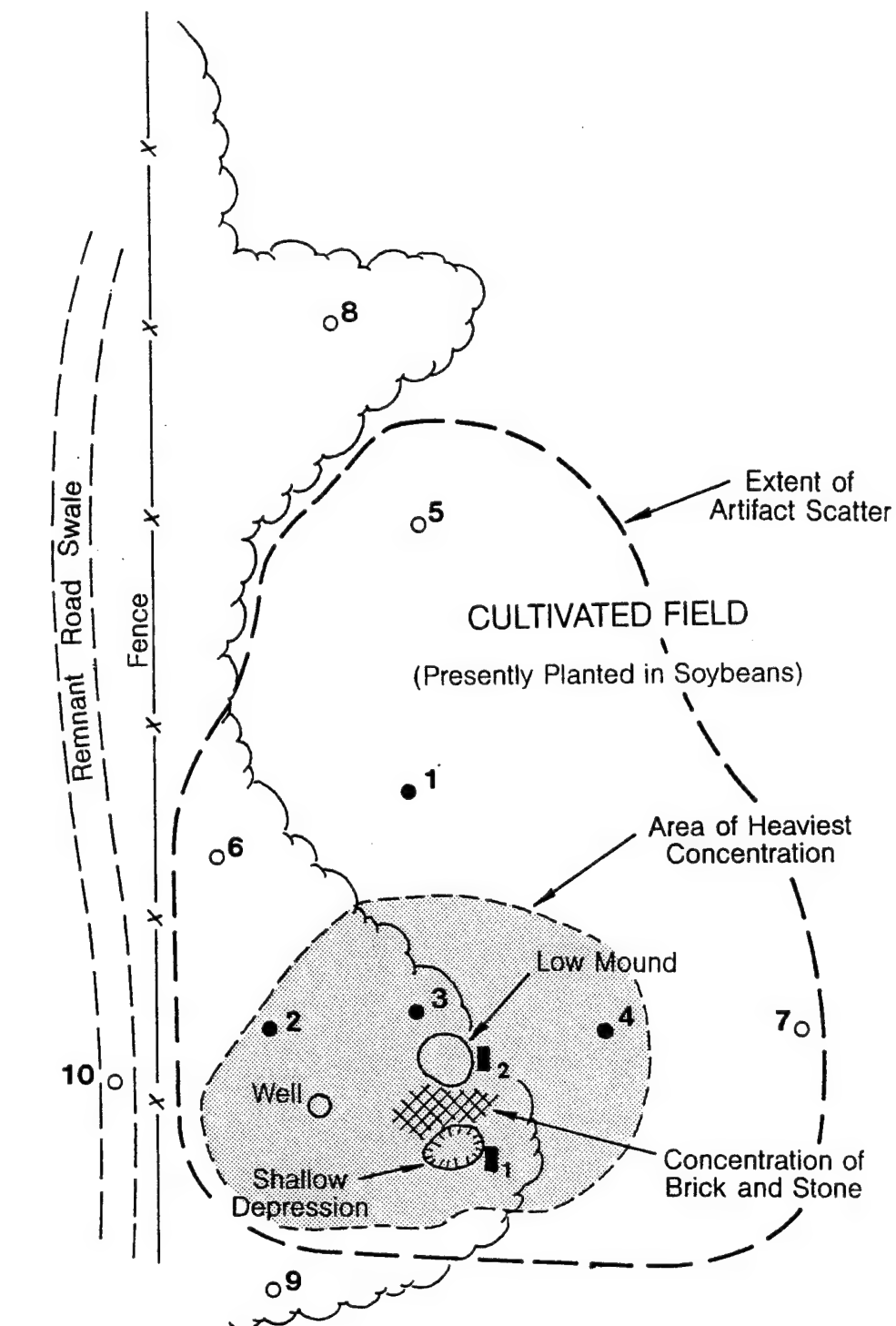
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	1100 m ² : 35 m east-west by 45 m north-south
Surface visibility:	10 to 100 percent, averaging about 60 percent
Slope:	0-1° to the west
Surface vegetation:	Riverine hardwood timber and soybeans
Date of investigation:	24 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,065 ft (325 m)

Site 14OS135 represents the remnant of a historic domicile and associated remains. It is located on an upland terrace above and approximately 100 m east-southeast of Puleston Creek, a small perennial stream and tributary of the Marais des Cygnes River. The soil is classified as Eram silty clay loam (USDA-SCS 1985). Eram soils are Tertiary-aged alluvial formations characteristic of upland terraces of the area.

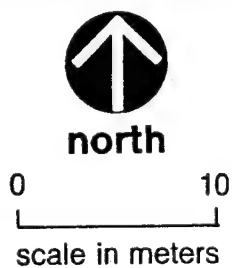
The site is presently located at the edge of a field cultivated in soybeans. Most of the site is characterized by a scatter of historic debris observed in the cultivated field (Figure 25). Observed material include bottle fragments of green, brown, clear, milk, aqua, and amethyst colored glass, ceramic sherds of stoneware, late refined earthenware, semi-porcelain, porcelain, amorphous metal fragments, and brick fragments. A small wooded stand approximately 20 x 25 m in area characterizes the southwestern part of the site where a structure was apparently once located (Figure 26). Within the wooded area, a large shallow depression and a scatter of soft-mud brick and stone are thought to represent the remnant of a domestic structure. A few meters west of these two features is the remains of an unfilled hand-dug water well. An extant north-south fence marks the western edge of the historic debris scatter. Beyond and parallel to this fence, a slight swale indicative of a former wagon trail is visible.

The potential for intact buried cultural deposits was investigated by ten shovel tests and two 50- x 100-cm excavation units which yielded 44 artifacts, excluding brick fragments from the upper 30 cm of the excavations (Table 3). The heaviest concentration of the subsurface artifactual material was derived from shovel tests within the wooded area described above. A total of 70 artifacts were collected from the site (Figure 27). Soil stratigraphy in this area included a very dark grayish brown silty clay loam about 20 to 25 cm in thickness which grades into a dark brown to dark yellowish brown silty clay loam subsoil which continued until the base of excavation (Figure 28). Based on the observed artifactual material, it is probable that the occupation of the site dated to the late nineteenth century (ca. 1880) until the early twentieth century (ca. 1930 or earlier).

The site appears to represent a small farmstead, based on the range of artifactual material. No indication of the farmstead is noted on the 1861 GLO of the area. The 1886 Osage County map shows a road along the section line about 500 m south of the site. The land parcel within which the site is located was patented in 1866 and first deeded in 1867. In 1869, it was deeded to an E. Puleston. The property passed from Edward Puleston to Robert Lloyd Jones in 1888 and remained in the Jones family until the 1970s when the government purchased the land to create Melvern Lake. The site was clearly occupied during the Jones ownership period, and likely occupied during the Puleston ownership of the land (Osage County Deed Records, Lyndon).



- Positive Shovel Test
- Negative Shovel Test
- 50 x 100 cm Test Unit



EH&A Espey, Huston & Associates, Inc.
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Figure 25
MAP OF
SITE 14OS135



Figure 26: Site 14OS135 viewed to west.

Because of the high archaeological potential and relatively intact nature of cultural deposits within the wooded area in the southern part of the site, the site is thought to be potentially eligible for the NRHP under criterion d, i.e., that it exhibits potential to yield information important in our understanding of the history of the area during the Period of Rural and Agricultural Dominance (1865-1900). Topics which the site may contribute new information include reconstruction of past lifeways through examination of subsistence and material cultural practices (Lees 1989:77-78). Such information would be particularly relevant is the site was occupied by some of the earliest settlers of the area, or a historically disenfranchised group, for which limited documentation of past lifeways is available. It is likely that, with more intensive investigation, significant additional information can be gained. Avoidance or NRHP testing is Site 14OS135 is recommended.

14OS136

Site Name:	None
Cultural Affiliation:	Historic--Late nineteenth or early twentieth to late twentieth century, ca. 1910-1970
Topographic setting:	River terrace
Parent material:	Clayey material weathered from shale
Drainage:	Puleston Creek
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	1750 m ² : 40 m east-west by 50 m north-south
Surface visibility:	Approximately 20 percent
Slope:	0-6° to the north
Surface vegetation:	Riverine hardwood timber
Date of investigation:	25 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

This site is a historic residential site dating to the early to late twentieth century. It consists of an extant historic stone structure (Figure 29). Several outbuildings are also present including a privy, a shed, a covered cistern, a large stone barbecue grill, and a stone doghouse (Figure 30). The main structure is a small two-level stone house. The original plan appears to have contained two rooms on each floor separated by a narrow central hall. The original dimensions were approximately 7 x 7 m. A brick stovepipe chimney of dry pressed brick has recently collapsed and fallen off of the roof. At some later date, a one-story rear enclosed porch extension about 3 x 7 m in area was added on. The house has been wired for electricity although the fixtures do not appear to date to the original construction. No indoor plumbing is present.

Materials used in the construction of the main structure and all outbuildings consisted entirely of wire nails and dimension lumber. At the time of the survey, the main structure was in relatively good repair considering that it has been abandoned since the government acquisition of the site in the early 1970s. The privy and shed appear to date to the early twentieth century and are in serious disrepair such that they are no longer structurally sound and probably beyond restoration. The house addition, covered cistern, doghouse, and barbecue appear to date to the 1950s or 1960s

1

TABLE 3: LOCATED ARTIFACTS

PROVENIENCE			METAL ARTIFACTS					GLASS ARTIFACTS					
			square-cut nail	brass lamp fragment	zinc canning jar lid	plow blade fragment	unid. metal ring	unid. metal fragment	aqua bottle fragment	amethyst bottle fragment	brown bottle fragment	green bottle fragment	clear bottle fragment
UNIT	LEVEL	DEPTH											
SHOVEL TESTS													
1	0	surface	1					11					
1	1	0-10 cm											
1	2	10-20 cm											
1	3	20-30 cm											
1	4	30-40 cm											
2	0	surface											
2	1	0-10 cm											
2	2	10-20 cm											
2	3	20-30 cm											
2	4	30-40 cm											
3	0	surface	21					11					
3	1	0-10 cm											
3	2	10-20 cm											
3	3	20-30 cm											
3	4	30-40 cm											
4	0	surface	1					1					
4	1	0-10 cm											
4	2	10-20 cm											
4	3	20-30 cm											
4	4	30-40 cm											
5	all												
6	all												
7	all												
8	all												
9	all												
10	all												
TEST UNIT													
1	0	surface	41					45					
1	1	0-10 cm											
1	2	10-20 cm											
1	3	20-30 cm											
1	4	30-40 cm											
2	0	surface						11					
2	1	0-10 cm											
2	2	10-20 cm											
2	3	20-30 cm											
2	4	30-40 cm											
SURFACE COLLECTION			11					11					
SITE TOTAL			7	1	1	1	1	2	7	4	1	1	11

*noted but not collected or counted

ARTIFACTS FROM SITE 14OS135

73

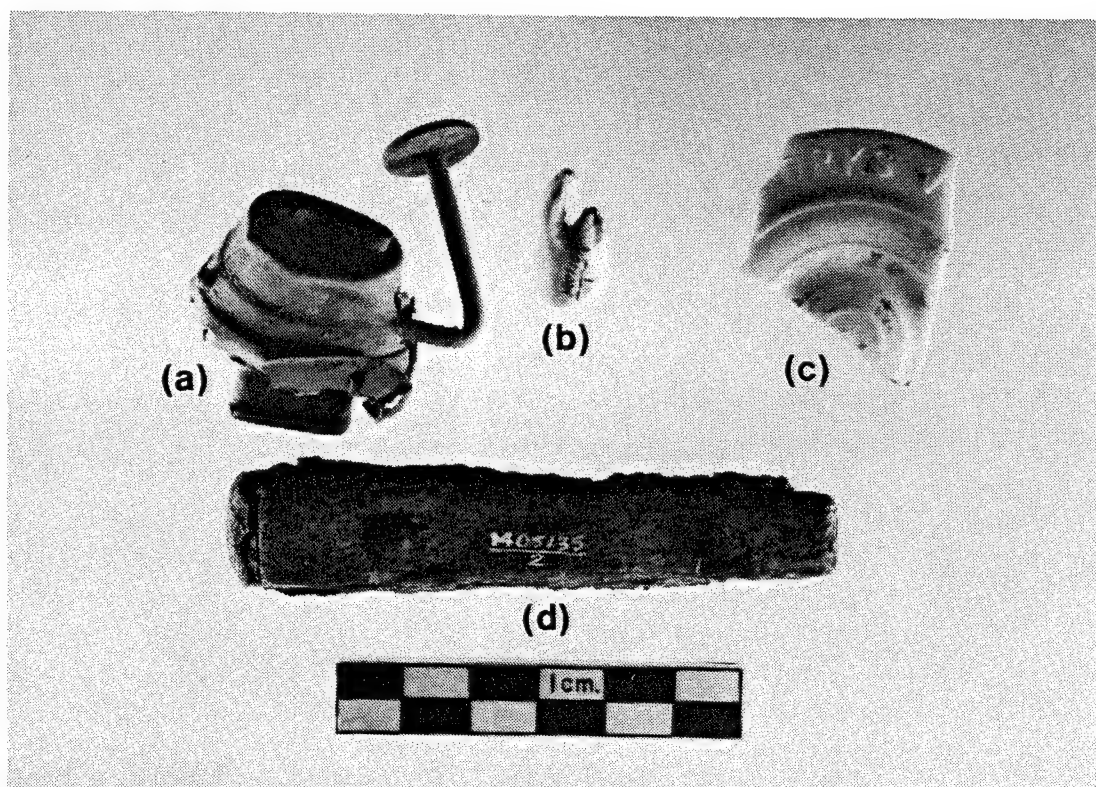
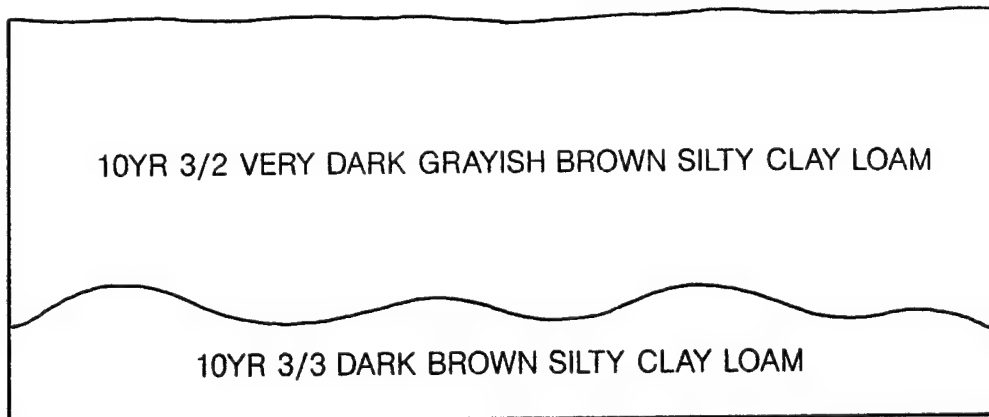
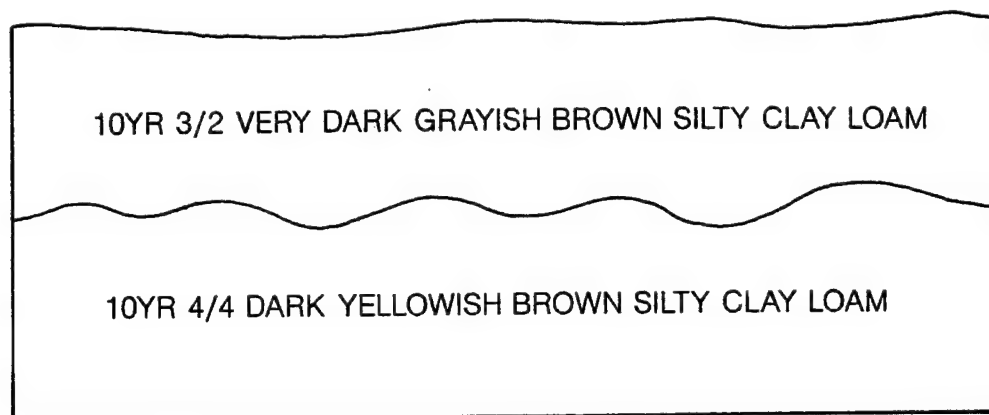


Figure 27: Selected Artifacts from Site 14OS135 --
(a) brass lamp fragment, (b) porcelain doll hand fragment,
(c) milk glass canning jar lid insert, (d) antler knife handle.



TEST UNIT 1 (50 X 100 CM) WEST WALL PROFILE



TEST UNIT 2 (50 X 100 CM) WEST WALL PROFILE

0 25
scale in centimeters

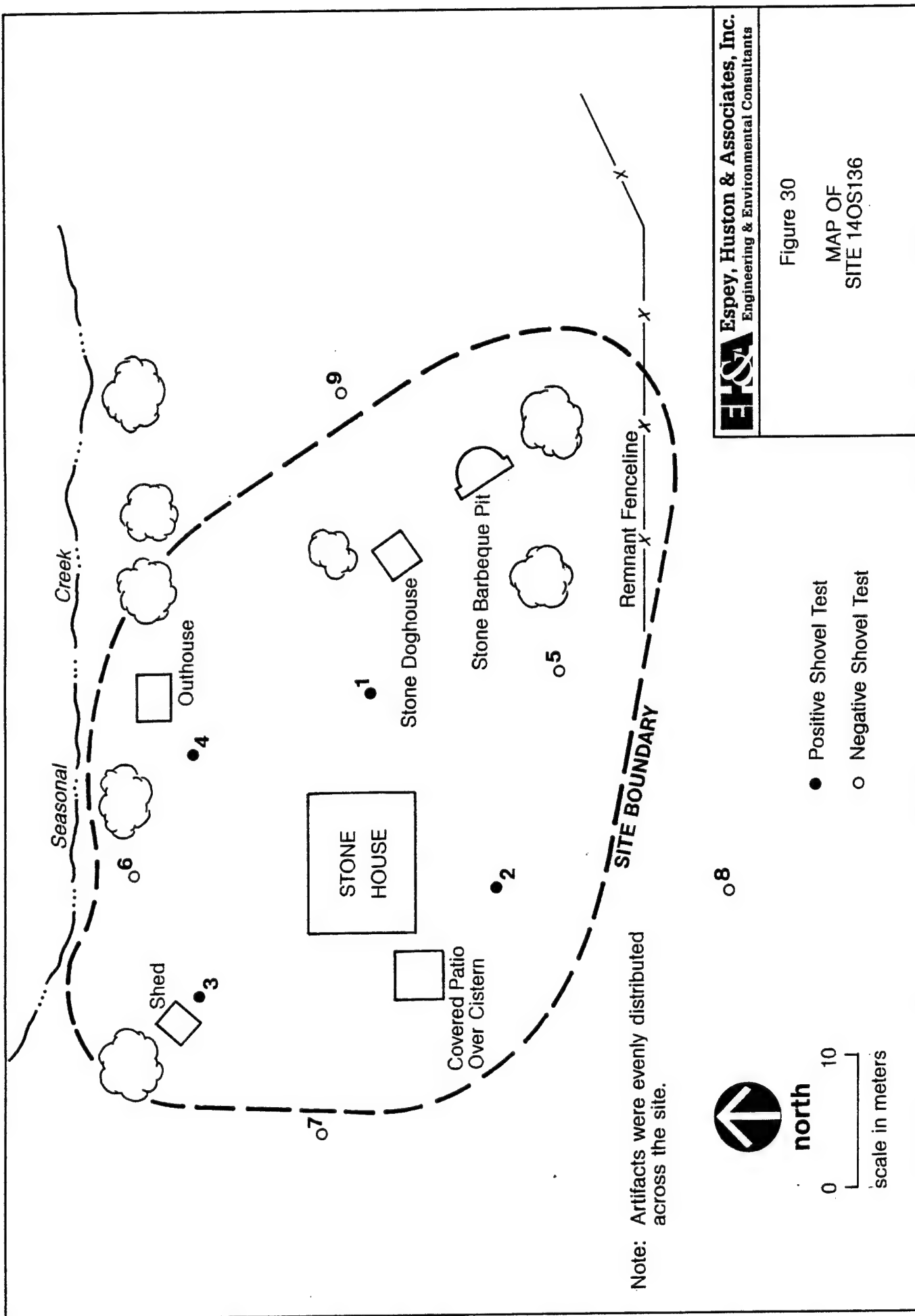
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Engineering & Environmental Consultants

Figure 28

SITE 14OS135
TEST UNIT PROFILES



Figure 29: Structure at Site 14OS136 viewed to north.



and were in good repair. Unfortunately, in October 1994, the main structure at Site 14OS136 was almost completely destroyed in an act of arson. At the present, few structural elements other than parts of the outer stone walls remain (Hall 1995).

The ground surface was characterized by a light scatter of historic debris including historic ceramics, clear and brown glass bottle fragments, bricks, lumber fragments, pipe fragments, and plastic fragments. No surface artifacts were collected. The soil of the location is classified as Kenoma silt loam (USDA-SCS 1985). Kenoma soils are Tertiary-aged alluvial formations characteristic of upland terraces of the area. Nine shovel tests were conducted at the site. They revealed a heavily disturbed surface soil zone 10 to 30 cm in thickness consisting of lenses of sandy clay loam intermixed with lenses of gravel. Beneath this disturbed zone, a dark brown clay loam was encountered. Four of the nine shovel tests were positive. They yielded 17 artifacts in the upper 30 cm of depth (Table 4).

The original 1861 GLO map of the area shows no structure at this location. The 100-acre land parcel within which Site 14OS136 is located was first patented in 1865 to a J. McManus. In 1873, it was deeded to James A. Whitaker and later that year to John J. Davis. Thirty-one years later, in 1904, John J. Davis and his wife Anna transferred the property to their daughters Hannah Lloyd, Miriam Sanderson and Pricilla Davis. In 1947, Pricilla Davies [sic] acquired a portion of the property from the estate of Lewellyn Davies. In 1970, the government acquired the property from the estate of Pricilla Davies.

Of note to speculation concerning the construction date of the main structure of Site 14OS136 is a stipulation of the 1904 quick claim deed by which John and Anna Davis gave the property to their daughters. In that document, John Davis reserved the right to usage of "the premises" for him and his wife Anna for the remainder of their lives (Osage County Deed Records, Lyndon). Usage of the term "premises" in a land deed usually indicates that improvements are present on the transferred property. It is uncertain whether these improvements include the main structure at site 14OS136, but if so, the structure would probably have been constructed after 1873 and before 1904. No other reference to improvements was made in any of the deed documents examined.

The dating of Site 14OS136 is somewhat ambiguous. The general condition of the main structure during the survey indicated that it was at least 60 years old. Although the deed research tends to suggest that the main structure was a residence constructed prior to 1904, the range of artifactual material is generally suggestive of a later occupation date, probably post-World War I.

The best indicators of the earliest feasible date for construction are surviving construction materials. Wire nails, which were used exclusively in all construction at the site, were quite expensive and extremely rare in ordinary homes constructed prior to the late 1880s when the U.S. wire nail industry had developed sufficiently that it could compete with cut nail production (Fontana and Greenleaf 1962). Additionally, the factory-manufactured chimney bricks and the Portland-type cement used to mortar stones and bricks would be very expensive and difficult to obtain prior to opening of the area to railway transportation in the early 1880s.

TABLE 4: LOCATED ARTIFACTS FROM SITE 14OS136

PROVENIENCE	METAL ARTIFACTS			GLASS ARTIFACTS				CERAMIC ARTIFACTS			OTHER	TOTAL
	wire nail	steel jar lid	aqua bottle fragment	brown bottle fragment	clear bottle fragment	melted clear bottle fragment	late refined earthen- ware sherd	semi- porcelain sherd	plastic jar lid			
SHOVEL TESTS												
1	1				1						1	
1	2										0	
1	3										0	
1	4										0	
2	1	1									1	
2	2										0	
2	3										0	
2	4										0	
3	1				1	2	5	1	1	1	11	
3	2										0	
3	3				1	1					2	
3	4										0	
4	1					1					1	
4	2										0	
4	3	1									1	
4	4										0	
5	all										0	
6	all										0	
7	all										0	
8	all										0	
9	all										0	
SITE TOTAL		1	1	1	1	5	5	1	1	1	17	

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The evidence indicates that the main structure of the site was constructed sometime between the late 1880s and the mid-1930s. In the opinion of the principal investigator, the case is stronger for the later part of this period, ca. 1910-1935. Due to the general paucity of artifactual materials and because no indoor plumbing or kitchen facilities are present in the structure although it had clearly been renovated during the 1950s or 1960s, it is speculated that it served primarily as a vacation retreat or hunting lodge.

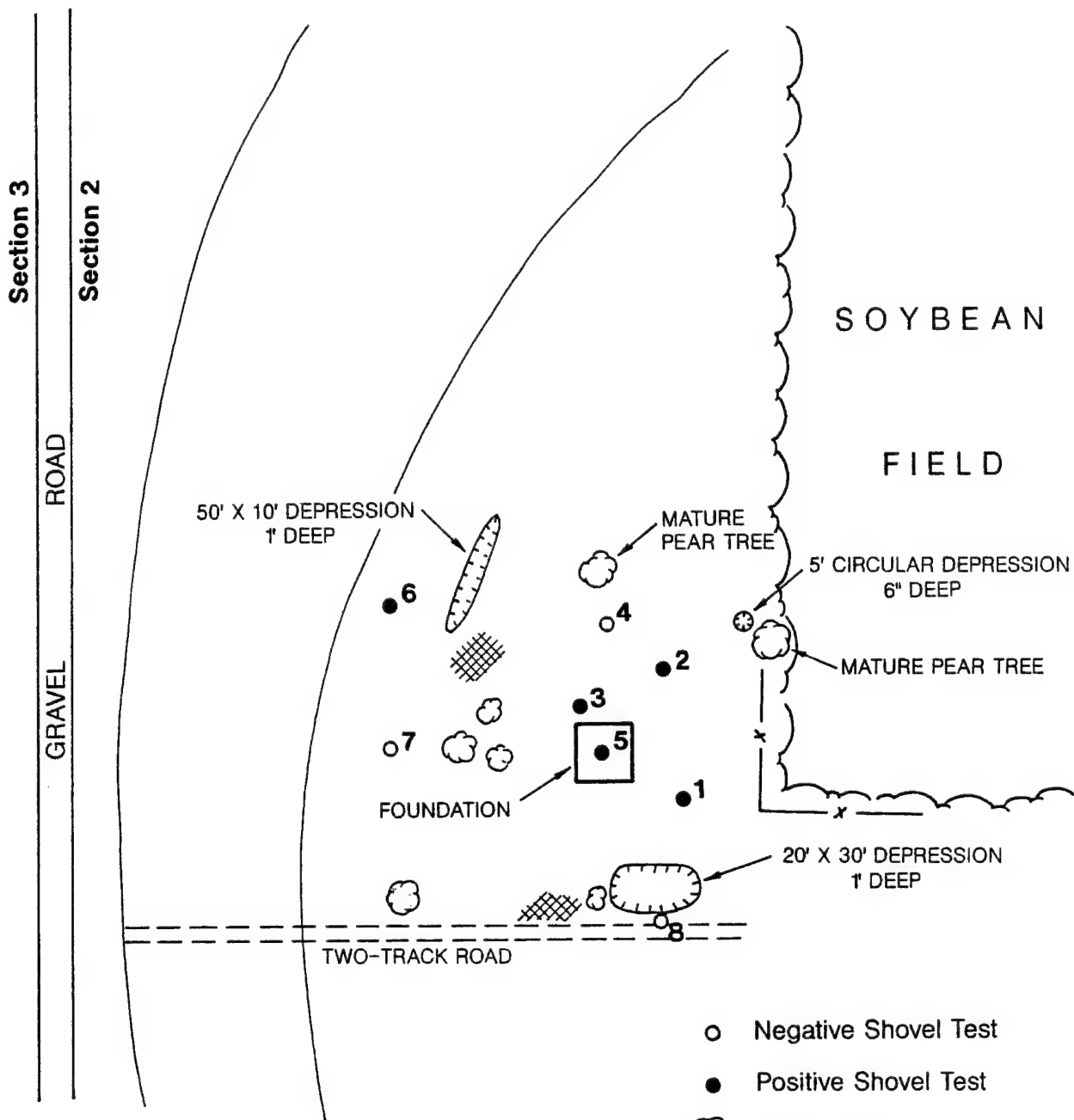
Site 14OS136 is not thought to be eligible for the NRHP. There is no evidence that any significant historical event is associated with the site. The site exhibits little potential for intact subsurface features or deposits. Although the site exhibited intact architectural remains at the time of the survey, these remains have been almost completely destroyed and offer no potential NRHP eligibility under criterion c. Therefore, no further investigation is thought to be warranted or is recommended.

14OS140

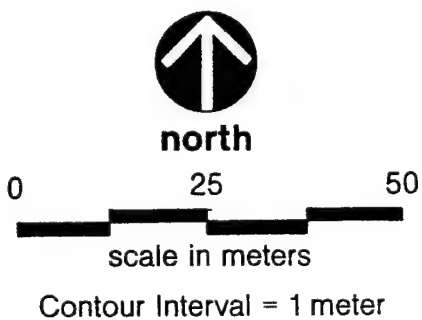
Site Name:	None
Cultural Affiliation:	Historic--Early to mid twentieth century, ca. 1910-1960
Topographic setting:	River terrace
Parent material:	Alluvium
Drainage:	Cable Creek
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	2000 m ² : 45 m east-west by 50 m north-south
Surface visibility:	Approximately 60 percent
Slope:	0-2° to the west
Surface vegetation:	Wooded
Date of investigation:	18 September 1993
Land-use:	Abandoned, wooded
Elevation:	1,060 ft (323 m)

Site 14OS140 consists of an early twentieth century historic domestic site in relatively intact wooded area. The soil is classified as belonging to the Olpe-Kenoma complex (USDA-SCS 1985). Olpe and Kenoma soils are Tertiary-aged alluvial formations characteristic of upland terraces of the area.

Observe surface remains include a 3-m square foundation of uncut limestone, two remnant flowerbeds, two large shallow depressions of undetermined function, and a scatter of historic material including clear, blue, brown, and milk glass bottle fragments, window pane fragments, historic ceramic sherds, asphalt shingle fragments, asbestos tile fragments, numerous amorphous metal fragments, and several fragments of 1- x 6-inch tongue-and-groove dimension lumber. Two mature pear trees and five other hardwoods of much greater stature than typical trees of the area were also present (Figure 31). The limestone foundation is almost level with the ground surface and has been filled except for the final ca. 60 cm. The subsurface integrity of the cultural deposit was investigated by eight shovel tests placed at the site location. Of these, five tests yielded cultural material to a depth of 30 cm (Table 5).



Note: Artifacts were evenly distributed across the site.



EH&A Espey, Huston & Associates, Inc.
Engineering & Environmental Consultants

Figure 31
MAP OF
SITE 14OS140

TABLE 5: LOCATED ARTIFACTS FROM SITE 14OS140

PROVENIENCE	UNIT LEVEL	DEPTH	METAL	GLASS ARTIFACTS							CERAMIC ARTIFACTS				OTHER ARTIFACTS				TOTAL
			steel can fragment	aqua bottle fragment	brown bottle fragment	light blue bottle fragment	clear bottle fragment	clear Pepsi bottle fragment	milkglass cosmetic jar fragment	window pane glass fragment	stone-ware sherd	concrete fragment	late refined earthen-ware sherd	plastic container fragment	asphalt shingle fragment	brick fragment	asbestos tile fragment		
			SHOVEL TESTS																
1	1	0-10 cm	1											1				2	
1	2	10-20 cm					1											1	
1	3	20-30 cm																0	
1	4	30-40 cm																0	
2	1	0-10 cm			1													4	
2	2	10-20 cm					2											0	
2	3	20-30 cm																0	
2	4	30-40 cm																0	
3	1	0-10 cm					1											1	
3	2	10-20 cm																0	
3	3	20-30 cm																0	
3	4	30-40 cm																0	
4	all																	0	
5	1	0-10 cm		1								1					1	3	
5	2	10-20 cm					1							1	1			3	
5	3	20-30 cm																0	
5	4	30-40 cm																0	
6	1	0-10 cm											2					2	
6	2	10-20 cm								1			2					2	
6	3	20-30 cm		2										5	1			9	
6	4	30-40 cm																0	
7	all																	0	
8	all																	0	
SURFACE COLLECTION									1	1	1	1	1	6	6	3		10	
SITE TOTAL			1	3	1	1	5	1	1	1	1	1	5	6	6	3	1	37	

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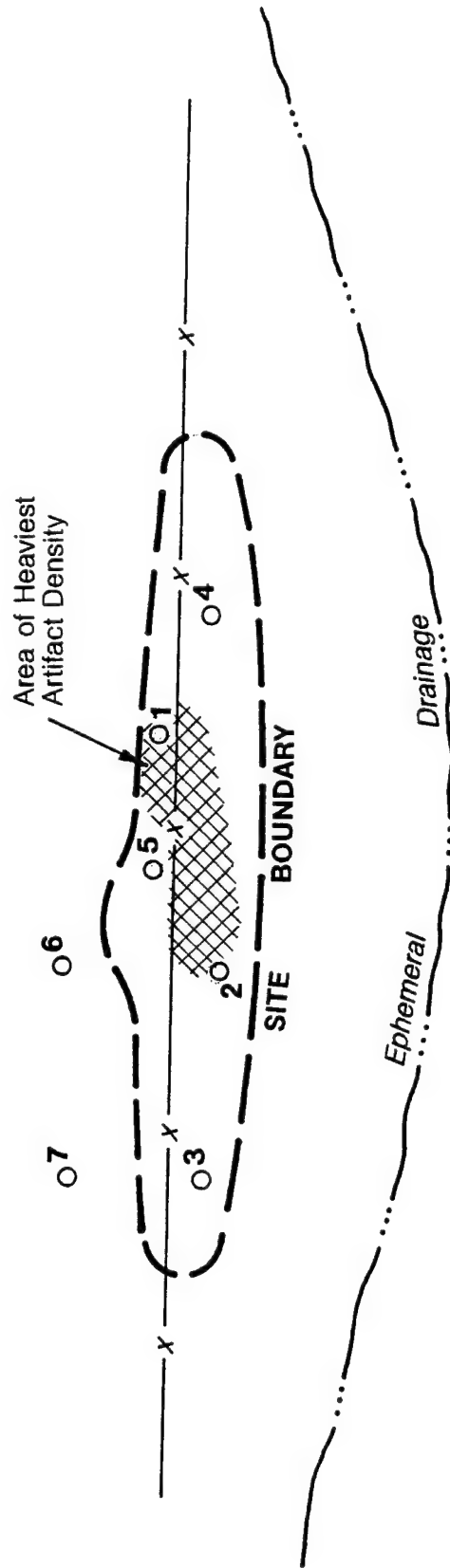
The original 1861 GLO map of the area shows no structure at this location. The land parcel within which Site 14OS140 is located was first patented in 1866 to a R.S. Stevens. In 1881, it was deeded to James K. Adams. In 1920, it was deeded to a George I. Skinner. The land was owned by Skinner, and later his descendants, until it was purchased by the government to create Melvern Lake in the 1970s (Osage County Deed Records, Lyndon). It was probably during the latter part of the Adams ownership or the early part of the Skinner ownership of the land that the house was constructed. Aerial photography of the location in 1968 shows no extant structures, however, a COE real estate map of the area dating from the same approximate period shows two structures, probably because an earlier map had been used as a base (COE 1968). The present county road along the section line about 100 m west of the site dates at least to 1886. It is speculated that the house was built ca. 1910 and destroyed prior to 1968.

Site 14OS140 is not thought to be eligible for the NRHP. Despite the relatively intact nature of the subsurface component, the site represents a chronological period where a great deal of information is known from the historical record. It is doubtful that more intensive archaeological or archival investigation of this site will yield significant additional information that would warrant NRHP significance. Therefore, no further investigation is recommended.

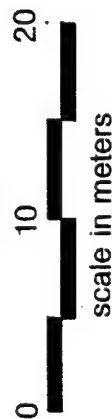
14OS141

Site Name:	None
Cultural Affiliation:	Historic--Early twentieth century, ca. 1900-1940
Topographic setting:	River terrace
Parent material:	Silty and clayey material weathered from shale
Drainage:	Cable Creek
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	250 m ² : 45 m east-west by 8 m north-south
Surface visibility:	Approximately 60 percent
Slope:	2-4° to the south
Surface vegetation:	Riverine hardwood
Date of investigation:	21 September 1993
Land-use:	Abandoned, wooded
Elevation:	1,060 ft (323 m)

This site consists of the remnant of early twentieth century historic domestic site along a wooded fenceline (Figure 32). No evidence of an occupation of the site location is indicated on the 1861 GLO map of the area. The soil of the site area is classified as Dennis silt loam (USDA-SCS 1985). Collected artifacts include a blue bottle fragment, an amber bottle fragment, a clear bottle fragment, a small perfume bottle fragment, a Boyd's zinc canning jar lid with a milkglass insert, another milkglass insert fragment, a semi-porcelain sherd, a late refined earthenware sherd, a stoneware sherd, a glass marble, and a *Princess* style pink depression glass plate fragment (Figure 33), manufactured from 1931 to 1935 (Florence 1987). Other observed material include ceramic plate fragments, crown caps, jar and bottle fragments of clear, aqua, amethyst, brown, and blue glass, sanitary cans, enamel-platted pots, bricks, and sewer pipe fragments. totaling about 500 artifacts.



↑
north



O Negative Shovel Test
—x— Fence



Figure 33: *Princess*-style depression glass plate fragment from Site 14OS141.

Aerial photography of the location in 1968 shows no extant structures, however, a COE real estate map of the area dating from the same approximate period shows a structure immediately south of the fenceline, probably because an earlier map had been used as a base (COE 1968). Temporally diagnostic artifacts suggest that the occupation dates to the early part of the century (ca. 1900-1940). Cultural material appears to be surficial. It is unclear whether the site represents a dump or discard area for a former house or if the house remains had been pushed to the present location by earthmoving equipment. The latter explanation seems less likely due to the shallow nature of the cultural material and the general lack of building material among the remains. Twelve artifacts were collected, all from a surface context.

Site 14OS141 is not thought to be eligible for the NRHP under criterion d. The site is a surface manifestation without associated features and has little potential to contribute significantly to our understanding of the history of the area with further investigation. No further investigation is thought to be warranted or is recommended.

Multiple Component Sites

14OS131

Site Name:	None
Cultural Affiliation:	Historic--Late nineteenth or early twentieth to late twentieth century, ca. 1900-1970, and prehistoric-Ceramic Period
Topographic setting:	River terrace
Parent material:	Formed in alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	7500 m ² : 60 m east-west by 135 m north-south
Surface visibility:	From 0 to 100 percent, averaging 20 percent
Slope:	0-1° to the south
Surface vegetation:	Grasses and weeds with scattered hardwoods, surrounded by cultivated soybeans
Date of investigation:	10 August 1993
Land-use:	Mostly abandoned but about 20 percent under cultivation
Elevation:	1,060 ft (323 m)

This site is the remnant of a historic farmstead with a small prehistoric component situated on a slight rise at the edge of the historic Marais des Cygnes River floodplain adjacent to an east-west section line county road. The soil of the location is classified as a Osage silty clay loam (USDA-SCS 1985). The soil was found to consist of a greyish brown silty clay or clay loam overlying a dark yellowish brown clay at depths ranging from the surface to more than 40 cm. The site has been extensively disturbed by past dozing activity. Indeed, much of the surface cultural material appears to have been bulldozed into a large mound in the south-central part of the site. The mound is 10 to 15 m in diameter and approximately 2.5 m in height and appears to consist primarily of soil although historic artifacts, especially structural building materials were observed protruding from the mound. With the exception of the mound, the site is characterized by a surface scatter of historic material. Observed material include sherds of stoneware and late refined earthenware, a

great abundance of clear bottle glass suggestive of large jars such as canning jars, as well as blue, green, brown, amethyst, and aqua bottle fragments, window glass fragments, wire nails, sanitary can fragments, and several amorphous metal fragments.

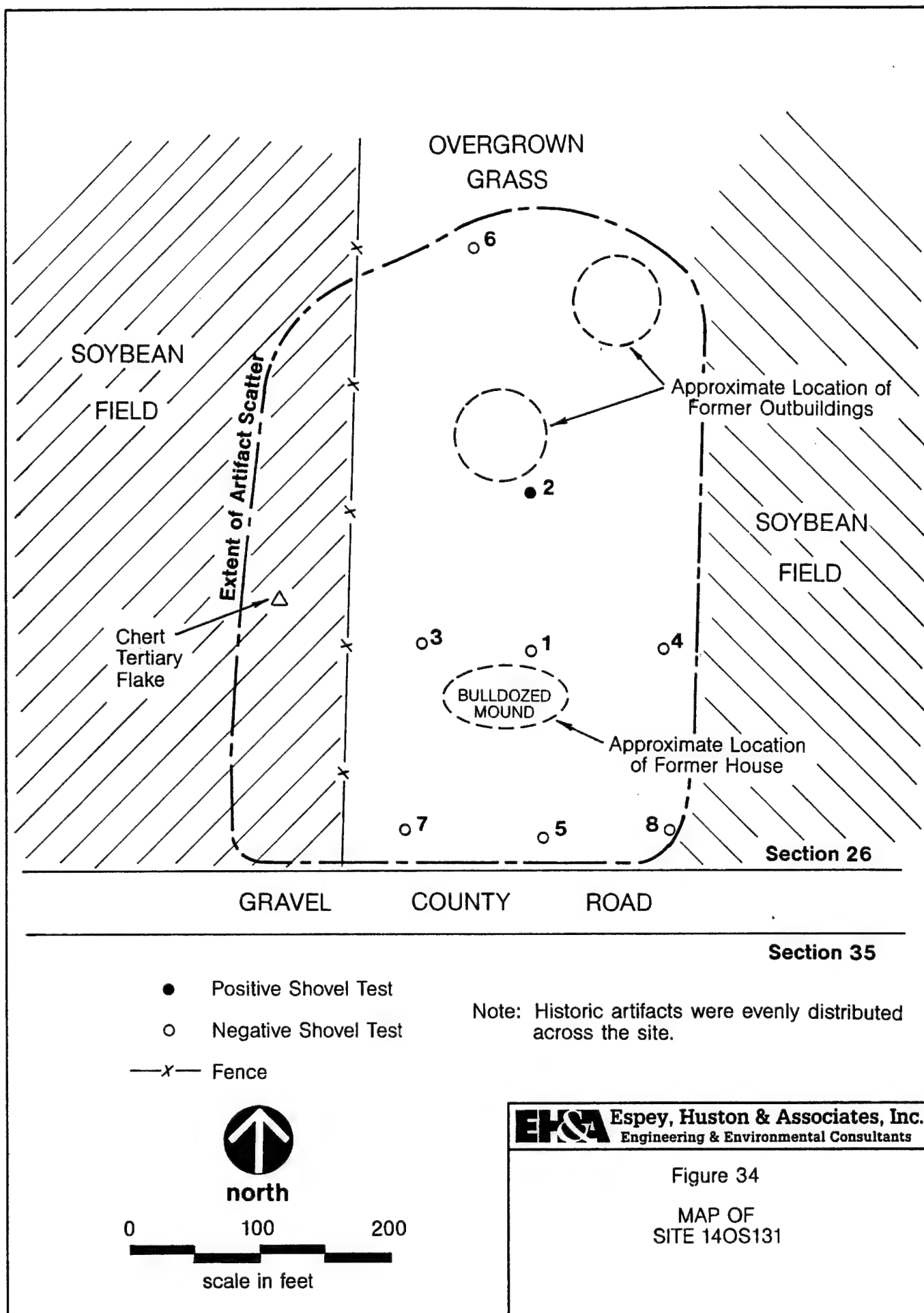
The subsurface integrity of the site was investigated with eight shovel tests (Figure 34). With the exception of shovel test 2 which yielded a wire nail in the 10-20 cm level, all were sterile. A sample of material observed on the ground surface was also collected, including a metal ring thought to be part of a bridle, two window glass fragments, two aqua glass fragments, one amethyst glass fragment, two stoneware sherds, six late refined earthenware sherds (Figure 35b), and a tibia fragment from a cottontail rabbit. In general, the artifact assemblage suggests a twentieth century occupation. A few artifacts, such as aqua and amethyst colored glass bottle fragments, suggest a possible pre-World War I period, but the absence of square nails would tend to detract from the likelihood of a pre-1890 occupation. No evidence of a historic occupation is indicated on the 1861 GLO map of the area. The great abundance of clear bottle glass suggests that the bulk of the occupation occurred in the mid-twentieth century or later. Aerial photography of the location indicate that in 1968, a residential structure and two outbuildings were still present (USGS 1971). COE real estate records indicate that the structures were demolished or removed between 1969 and 1971 (COE n.d.a.). Thus, the site likely dates from between 1890 and 1915 until about 1970.

A small prehistoric component is present at the site. The observed prehistoric assemblage consists of only two artifacts, a projectile point and a tertiary flake, recovered from a surface context. The projectile point (Figure 35a) is a small, narrow triangular point with a very weak notch present on one lateral margin near the base. The size would suggest usage as an arrow tip indicating a Ceramic Period occupation (post-2,000 BP) and the general morphology of the artifact may indicate the Middle Ceramic Period (ca. 1,100-500 B.P.) when such small, narrow triangular points were common, although it is somewhat speculative.

The site is not thought to be eligible for the NRHP. Small farmsteads of this period are relatively common in Kansas and generally unremarkable, and thus should not be considered NRHP eligible unless there is some significant historical event or some unique architectural feature associated with the site. With regard to the archaeological component, as many domestic structures exist from these periods, it is very unlikely that Site 14OS131, representing remains of a similar structure would be able to contribute significantly to our knowledge of domestic lifeways of these periods. This is especially true in the case of Site 14OS131, as the shallow subsurface component has been heavily impacted by heavy equipment usage at the location. Concerning the prehistoric component, it appears to represent a sparse usage of the location that left few artifacts. No evidence of subsurface cultural deposits or features was located and any remains would have been impacted by the historic occupation and subsequent ground-disturbing activity. Therefore, no further investigation is thought to be warranted or is recommended.

14OS134

Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined and Historic--late nineteenth or early twentieth century, ca. 1900
Topographic setting:	River terrace



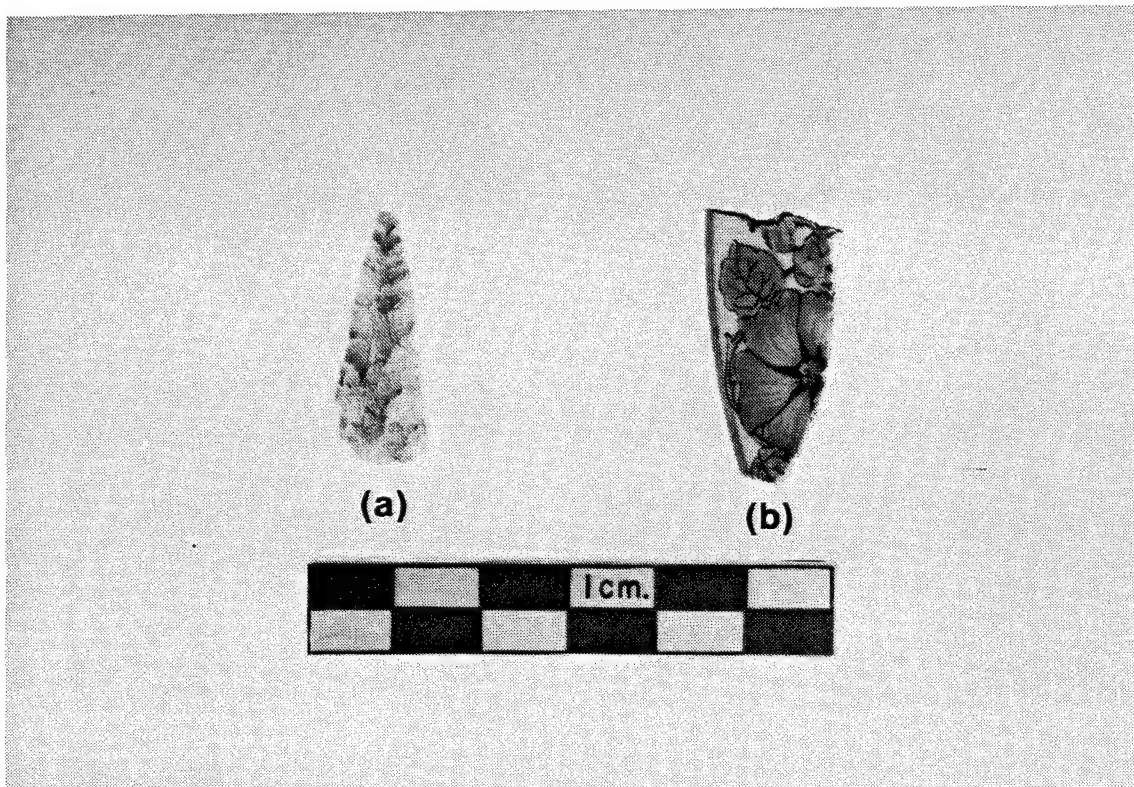


Figure 35: Selected Artifacts from Site 14OS131.

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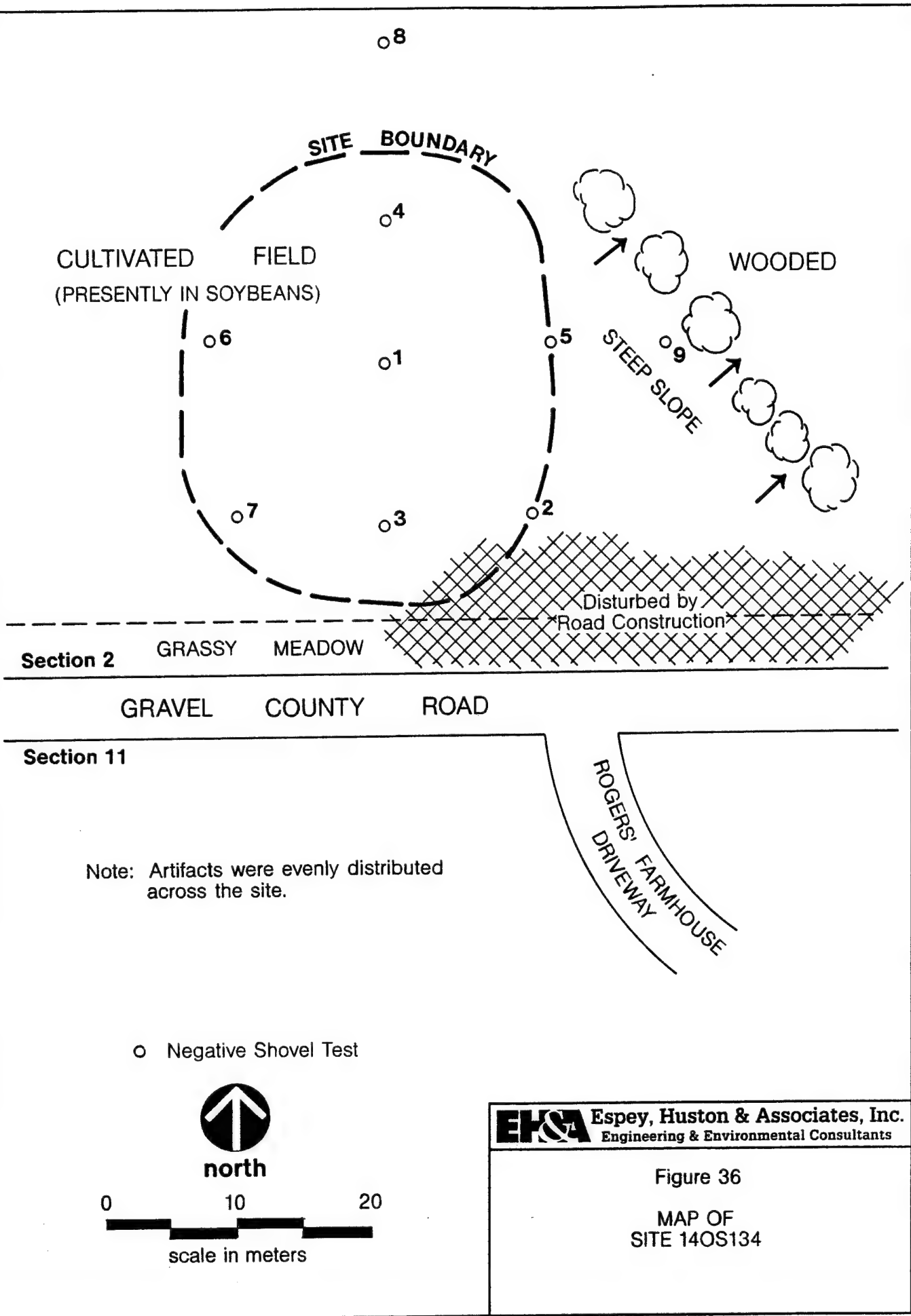
Parent material:	Silty and clayey material weathered from shale
Drainage:	Marais des Cygnes River
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	925 m ² : 30 m east-west by 40 m north-south
Surface visibility:	Approximately 50 percent
Slope:	2-6° to the north and northeast
Surface vegetation:	Mostly soybeans with some weeds and grasses
Date of investigation:	22 August 1993
Land-use:	Mostly under cultivation when recorded
Elevation:	1,070 ft (326 m)

This location consists of a small, sparse scatter of early twentieth century historic domestic debris with a sparse prehistoric component. The site is located adjacent to a gravel section line road (Figure 36) and across the street from a large extant farmstead. The soil is classified as Dennis silt loam (USDA-SCS 1985). Dennis soils are Tertiary-aged alluvial formations characteristic of upland terraces of the area.

Observed remains include a scatter of about 20 historic artifacts including stoneware, late refined earthenware, porcelain sherds, and aqua and clear bottle glass. Observed prehistoric artifacts include four chert tertiary flakes. Eight shovel tests were conducted to investigate the subsurface potential of the site. All exhibited a shallow dark brown clay loam surface soil about 15 to 20 cm in thickness overlying a compact orange brown clay. Six artifacts were collected, all from a surface context. They include a porcelain doll leg, an aqua bottle neck fragment with an applied ring finish, a porcelain vessel sherd with an embossed geometric design, two late refined earthenware sherds, and a stoneware sherd.

The function of the historic component of Site 14OS134 is not readily apparent. The remains suggest a very late nineteenth or early twentieth century domestic function but the sparseness of remains may indicate an ephemeral occupation. The absence of building material may indicate that any structure present at the site was probably removed intact rather than demolished, dismantled and salvaged, or allowed to decay and collapse in place. A structure in close proximity to the road, occupying the location for a short time and being moved away might indicate a tenant farmer residence. Its placement across the road from and in front of a much more substantial farmstead is somewhat inconsistent with this function. It is also possible that the scatter represents limited dumping activity. No evidence of a historic occupation is indicated on the 1861 GLO map of the area. The prehistoric component is small and sparse, suggesting a short-term campsite or limited activity area.

Site 14OS134 is not thought to be eligible for the NRHP due to the paucity of remains, the seemingly shallow nature of cultural material, and the impact to the site from cultivation and road construction. It appears unlikely that more intense investigation will yield any significant additional information. No further investigation is thought to be warranted.



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14OS137

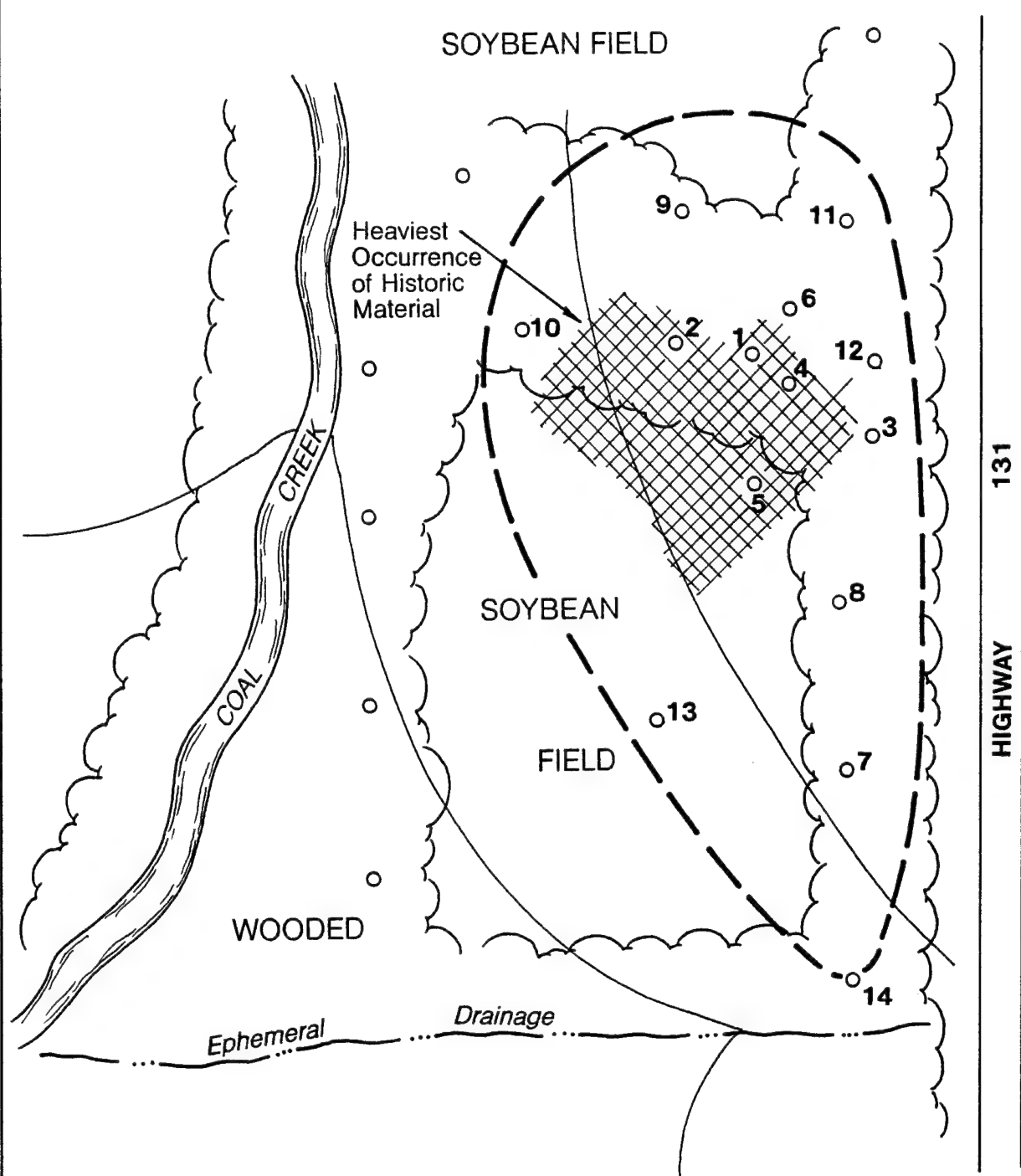
Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined and Historic--Early to late twentieth century, ca. 1910-1970
Topographic setting:	River terrace
Parent material:	Clayey material weathered from shale
Drainage:	Coal Creek
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	5000 m ² : 45 m east-west by 200 m north-south
Surface visibility:	Approximately 60 percent
Slope:	Approximately 2° to the west-southwest
Surface vegetation:	Soybeans and riverine hardwoods
Date of investigation:	26 August 1993
Land-use:	Abandoned and partially under cultivation
Elevation:	1,065 ft (325 m)

This site consists of a large, early to the late twentieth century historic site with two sparse lithic components (Figure 37). The site is situated on a Tertiary-aged upland terrace above Coal Creek, a small perennial stream. The soil at the site location is classified as Kenoma silt loam (USDA-SCS 1985). About two-thirds of the site is presently under cultivation with the remainder being in a small wooded stand and in highway right-of-way. Evidence of extensive dozing activity is apparent within the wooded area in the central part of the site.

Although cultural material was scattered over a broad area of approximately 5,000 m², the bulk of the ca. 150 historic artifacts observed were in an area of about 1,500 m² in the central part of the site. Observed historic remains include historic domestic debris suggesting early to mid-twentieth century occupation and a small concrete foundation slab approximately 2 by 3 m in size. Prehistoric remains, consisting of about 20 tertiary and secondary chert flakes, were observed in the southern and extreme northern portions of the site. Fourteen shovel tests were conducted in the site area. All were culturally sterile. The soil stratigraphy consisted of a thin dark brown to greyish brown clay loam surface soil about 10 to 15 cm in thickness overlying a compact brown to dark brown silty clay loam.

Twenty-six artifacts were collected. They include a fragment of a porcelain insulator, two fragments of a porcelain floral design, a porcelain sherd, a semi-porcelain sherd, two sherds of late refined earthenware and 11 stoneware sherds, a fragment of a milkglass canning jar lid insert, three aqua glass bottle fragments, one amethyst glass bottle fragment, one brown bottle fragment, one window pane fragment, and an unidentified clear glass fragment.

The artifact assemblage suggests an occupation extending back to the early twentieth century or possibly earlier. The 1861 GLO map of the area shows no residential occupation at the site location. Examination of aerial photography of the location dating to 1956 (USGS 1973) shows four structures, a residential structure at the approximate location where the heaviest concentration of historic material was located, and three outbuildings, one located in the southern part of the present debris scatter and two immediately west of the present debris scatter. The final disposition



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Figure 37

MAP OF
SITE 14OS137

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of the structures is not known but it is likely that they were removed or demolished when the government acquired the land in the early 1970s.

Site 14OS137 is not thought to be eligible for the NRHP. The site exhibits little potential for intact deposits or features. It has been heavily disturbed by heavy equipment operation, agricultural activity, and highway construction and maintenance. It is unlikely that more intense investigation will yield information which could contribute to our understanding of the history or prehistory of the area in any significant sense. No further investigation is thought to be warranted or is recommended.

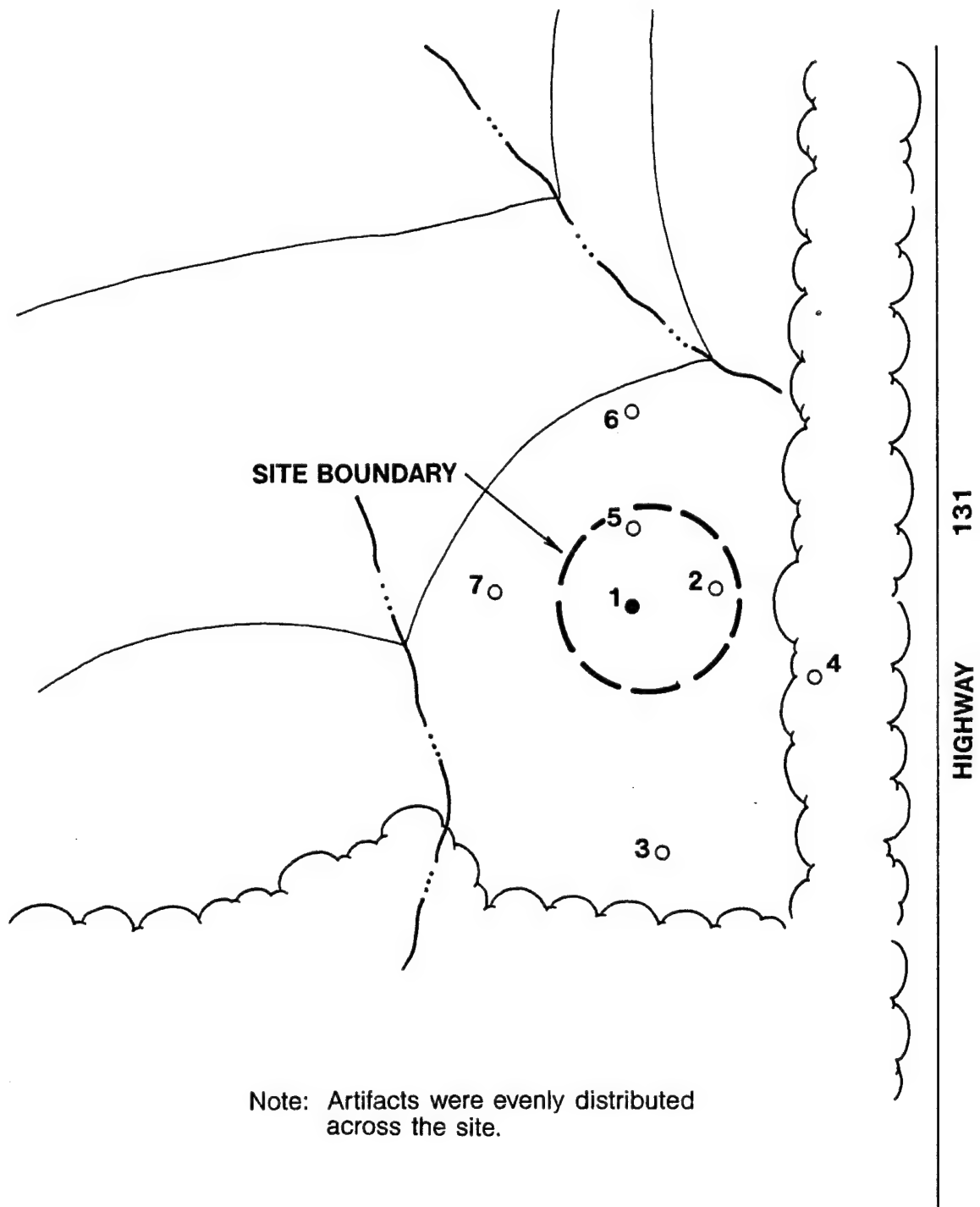
14OS138

Site Name:	None
Cultural Affiliation:	Prehistoric--Undetermined and Historic--Early twentieth century, ca. 1920-1950
Topographic setting:	River terrace
Parent material:	Clayey material weathered from shale
Drainage:	Coal Creek
Recording agency:	Espey, Huston & Associates, Inc., Austin, Texas
Site size:	450 m ² : 20 m east-west by 30 m north-south
Surface visibility:	Approximately 80 percent
Slope:	2-4° to the northwest
Surface vegetation:	Soybeans
Date of investigation:	26 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,065 ft (325 m)

This site consists of small historic scatter with a small sparse prehistoric lithic component. The site is situated on small knoll along a flat terrace above Coal Creek, a small perennial tributary of the Marais des Cygnes River (Figure 38). The soil is classified as Kenoma silt loam (USDA-SCS 1985). Kenoma soils are Tertiary-aged alluvial formations characteristic of upland terraces of the area.

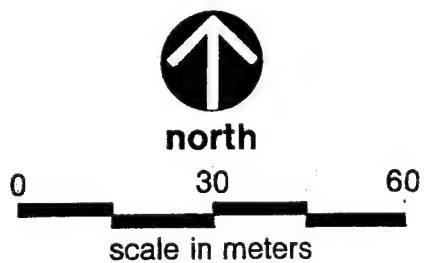
Material observed include about 100 historic artifacts including brown and clear bottle glass, window pane fragments, stoneware, late refined earthenware, semi-porcelain and porcelain sherds, and amorphous metal fragments as well as 10 chert debitage fragments. Seven shovel tests were conducted in the site area and vicinity. All were culturally sterile except for shovel test 1, placed in the central portion of the surface scatter. This test yielded single sherds of semi-porcelain and late refined earthenware in the upper 10 cm which were collected. Additionally, a small sample of material was collected from the ground surface, including a small fragment of a cast iron toy animal, a large iron staple, an amorphous metal fragment, one fragment of aqua colored bottle or jar glass, a fragment of a milkglass canning jar lid insert, three fragments of semi-porcelain, two sherds of late refined earthenware, and one stoneware sherd.

The artifact assemblage suggests an occupation extending back to the early twentieth century but probably not predating World War I because of the absence of such indicators as aqua



Note: Artifacts were evenly distributed across the site.

- Positive Shovel Test
- Negative Shovel Test



Contour Interval = 0.5 meters

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Figure 38

MAP OF
SITE 14OS138

and amethyst glass. No indication of the site is shown on the 1861 GLO map of the area. It appears likely that the historic component represents a small residential structure occupied during the early mid-twentieth century (ca. 1920-1950); however, it is also possible that the scatter represents limited dumping activity. The prehistoric component is small and sparse, suggesting a short-term campsite or limited activity area.

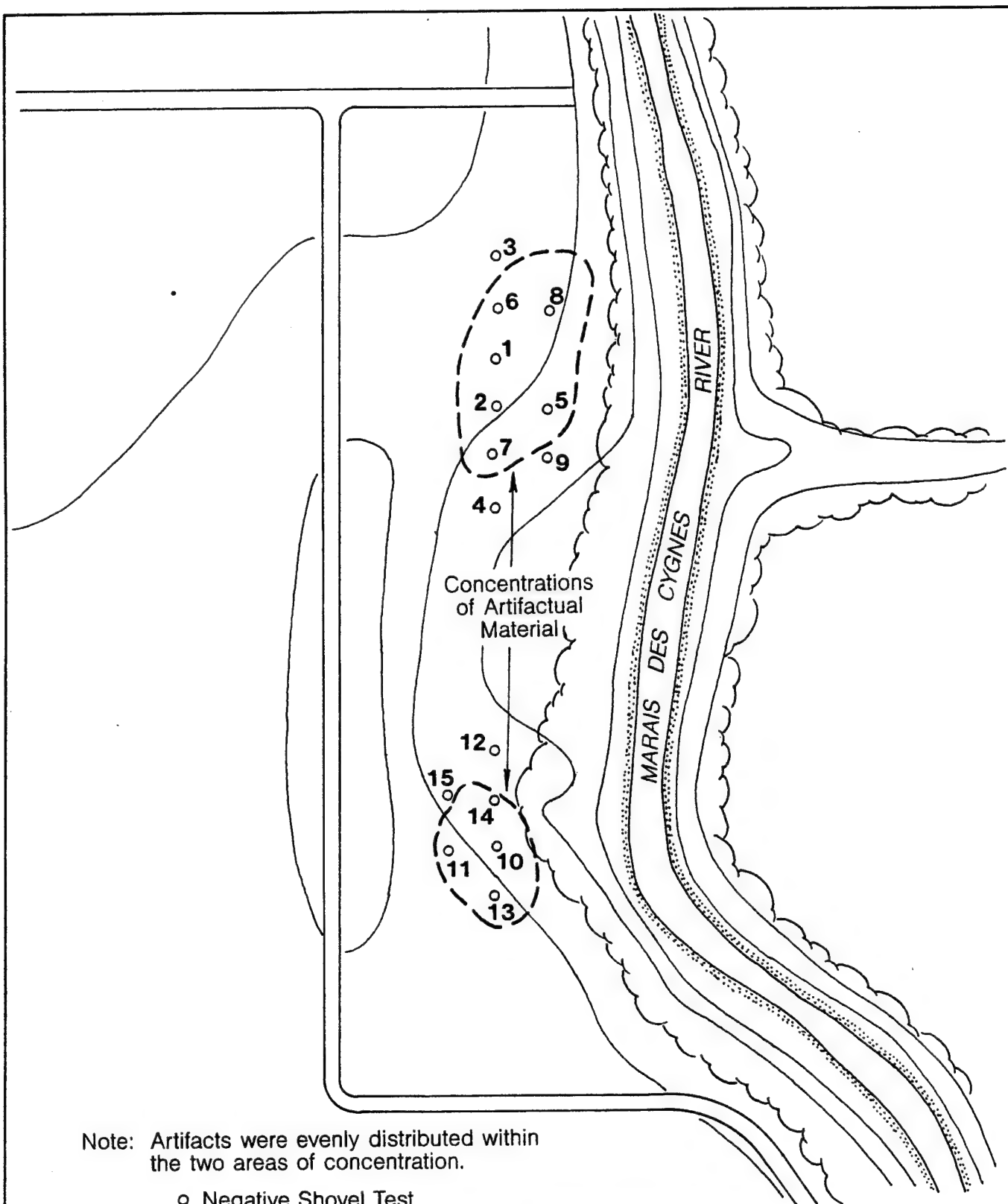
Site 14OS138 is not thought to be eligible for the NRHP. Due to the depositional history of the location and the past agricultural activity, the site exhibits little potential for intact deposits or features. It is unlikely that more intense investigation will yield information which could significantly contribute to our understanding of the history or prehistory of the area. No further investigation is thought to be warranted or is recommended.

Previously Recorded Sites

14LY408

Site Name:	None
Cultural Affiliation:	Prehistoric--Early Ceramic and Middle Ceramic Pomona Focus
Topographic setting:	River terrace
Parent material:	Formed in silty and loamy alluvial sediments
Drainage:	Marais des Cygnes River
Recording agency:	Private--Carl M. Wright
Site size:	17000 m ² : 225 m north-south by 100 east-west
Surface visibility:	Approximately 40 percent
Slope:	0-10° variable
Surface vegetation:	Sorghum when recorded
Date of investigation:	23 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

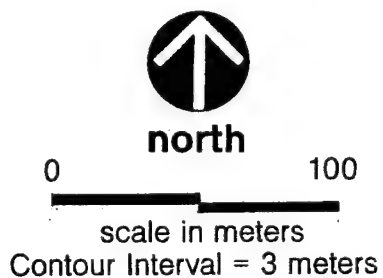
Site 14LY408 was originally recorded by Carl Wright in 1981. He reportedly collected during two visits, Pomona and Early Ceramic period ceramics, burnt sandstone and limestone, and a number of lithic artifacts including *Scallorn*, *Bonham*, *Maud*, *Ensor*, *Dickson*, *Snyder*, *Catan*, *Refugio*, and *Martindale* points, end scrapers, retouched flakes, hammerstones, chipped manos, and a chipped stone celt (Wright 1981a). Wright reports two components north of a broad depression which he attributed to Pomona and Middle Woodland (Early Ceramic) occupations and one component south of the depression which he identified as Middle Woodland (Early Ceramic). During the present survey, the site was relocated and was found to consist of two concentrations of artifactual material on either side (north and south) of the broad depression adjacent to the Marais des Cygnes River (Figure 39). However, two separate components could not be discerned north of the depression. Material observed during a careful examination of the ground surface include approximately 75 lithic debitage fragments, six small burnt rocks, and a single clay-tempered, cordmarked ceramic sherd. It is difficult to explain the disparity between what was observed in the original recordation versus the more recent survey. However, the site was originally recorded in May, probably shortly after the field had been tilled and visibility was likely very good. During the



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Figure 39

MAP OF
SITE 14LY408



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present survey, the site was cultivated in chest-high sorghum and visibility was approximately 40 percent.

The soil of the site location is classified by the USDA-SCS (1981) as Ivan silt loam. Ivan soils are part of the late Holocene to historic-aged floodplain of the Marais des Cygnes River. The location of the site on the surface of Ivan soils suggests a relatively recent site formation, probably during the terminal Archaic or Ceramic periods. The subsurface potential of the site was investigated by the placement of about 15 shovel tests. The soil stratigraphy, as observed during the site recordation typically consists of a medium brown silty clay loam surface soil approximately 20 cm in thickness overlying a dark brown clay loam which extended to a depth of 40 cm or greater. No artifacts were located in any of the shovel tests.

Although the present survey failed to locate any substantial cultural remains, based on the findings of the original recordation of the site, it is the opinion of the Principal Investigator that Site 14LY408 is potentially eligible for the NRHP. It is recommended that the site be avoided or investigated further to determine NRHP eligibility.

14LY410

Site Name:	None
Cultural Affiliation:	Prehistoric--Middle Ceramic Pomona Focus
Topographic setting:	River terrace
Parent material:	Formed in silty, loamy, and clayey alluvial sediments
Drainage:	Marais des Cygnes River
Recording agency:	Private--Dorothy L. and Carl M. Wright
Site size:	17000 m ² : 225 m north-south by 100 east-west
Surface visibility:	Approximately 40 percent
Slope:	0-10° variable
Surface vegetation:	Soybeans when recorded
Date of investigation:	23 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

Site 14LY410 was originally recorded by Dorothy L. and Carl M. Wright in 1981. They reportedly collected Pomona ceramics and a number of lithic artifacts including points, drills, cores, and hammerstones. They apparently observed concentrations of daub suggesting structure locations (Wright and Wright 1981). They also note that postmolds were visible after the flood of 1980, apparently due to flood waters scouring the topsoil in places although it is not apparent whether they observed these postmolds or were told about them. When the site location was examined during the 1993 survey, no cultural material could be located. Approximately 20 shovel tests were conducted in the site vicinity and all were culturally sterile.

Although two sites (14LY104 and 14LY105) were recorded by the present survey within a few hundred meters of the supposed location, both are small, sparse lithic scatters and do not appear to match the Site 14LY410 description in any way. It seems more likely that Site 14LY410 was completely mislocated when originally plotted. The surface soil consisted of a medium

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brown sandy or silty clay loam which extended to a depth of approximately 20 to 25 cm and probably represents the historic plow zone. Below about 20 to 25 cm in depth, a dark brown to dark gray clay was encountered.

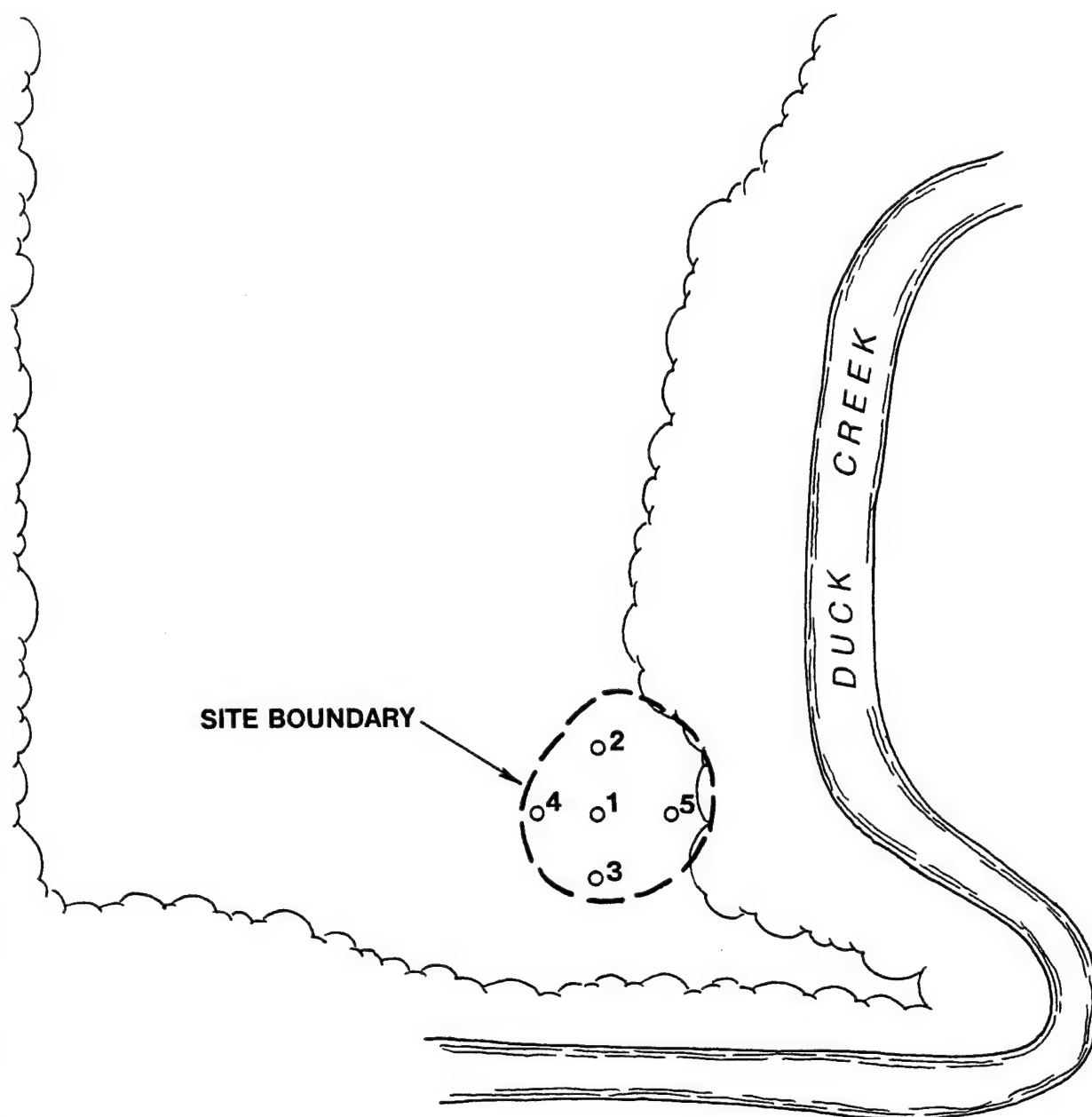
As Site 14LY410 could not be relocated, no cultural remains were observed at the reported location that would support a recommendation of NRHP eligibility. Therefore, no further investigations are recommended at this location.

14LY412

Site Name:	None
Cultural Affiliation:	Prehistoric--Early Ceramic (Wright and Wright 1982a)
Topographic setting:	Creek terrace
Parent material:	Formed in silty alluvial sediments
Drainage:	Duck Creek
Recording agency:	Private--Dorothy L. and Carl M. Wright
Site size:	700 m ² (30 m diameter)
Surface visibility:	Approximately 65 percent
Slope:	0-6° variable
Surface vegetation:	Sorghum when recorded
Date of investigation:	23 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

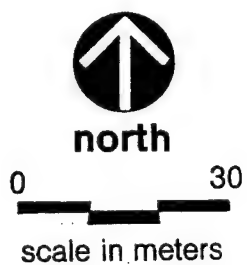
Site 14LY412 was recorded by Carl and Dorothy Wright in 1982. The site was reported to consist of flakes, pottery sherds, and hearth stones. The site is located on a terrace above and immediately west of Duck Creek, a small but deeply entrenched perennial tributary of the Marais des Cygnes River (Figure 40). The soil is classified as Reading silt loam (USDA-SCS 1981), probably formed during the mid-Holocene epoch. The observed soil consists of a dark brown clay loam which is quite loose from the surface to a depth of 25 to 30 cm. At this depth, the soil is unchanged but becomes extremely compact, extending to a depth of 50 cm or more. During the present investigation, the site was investigated by an intense surface examination and five shovel tests, all of which were culturally negative. Observed surface material include about 20 chert lithic debitage fragments including three cores, and a few fragments of tabular sandstone, some of which were obviously burnt. No artifacts were collected.

Based on the size of the site and the sparsity of the artifact assemblage, it is suggested that Site 14LY412 probably represents an ephemeral usage of the location, although the presence of ceramics recovered during a previous investigation indicate the possibility of a short-term campsite. It may also be an ancillary activity area associated with a larger nearby site. The suggested age of the site, based on previous recordation and the probable soil formation period of Reading soils, makes it unlikely that cultural material would be found in a buried in situ context. Because the apparent surface nature of cultural deposits, it is unlikely that intact features or cultural deposits are present at the site. The paucity of artifacts and the absence of diagnostic artifacts are not conducive to more intensive analysis, and it is unlikely that more intensive investigation would yield any



Note: Artifacts were evenly distributed across the site.

○ Negative Shovel Test



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Figure 40
MAP OF
SITE 14LY412

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significant new information. Therefore, Site 14LY412 is not thought to be eligible for the NRHP. No further investigation is thought to be warranted or is recommended.

14LY413

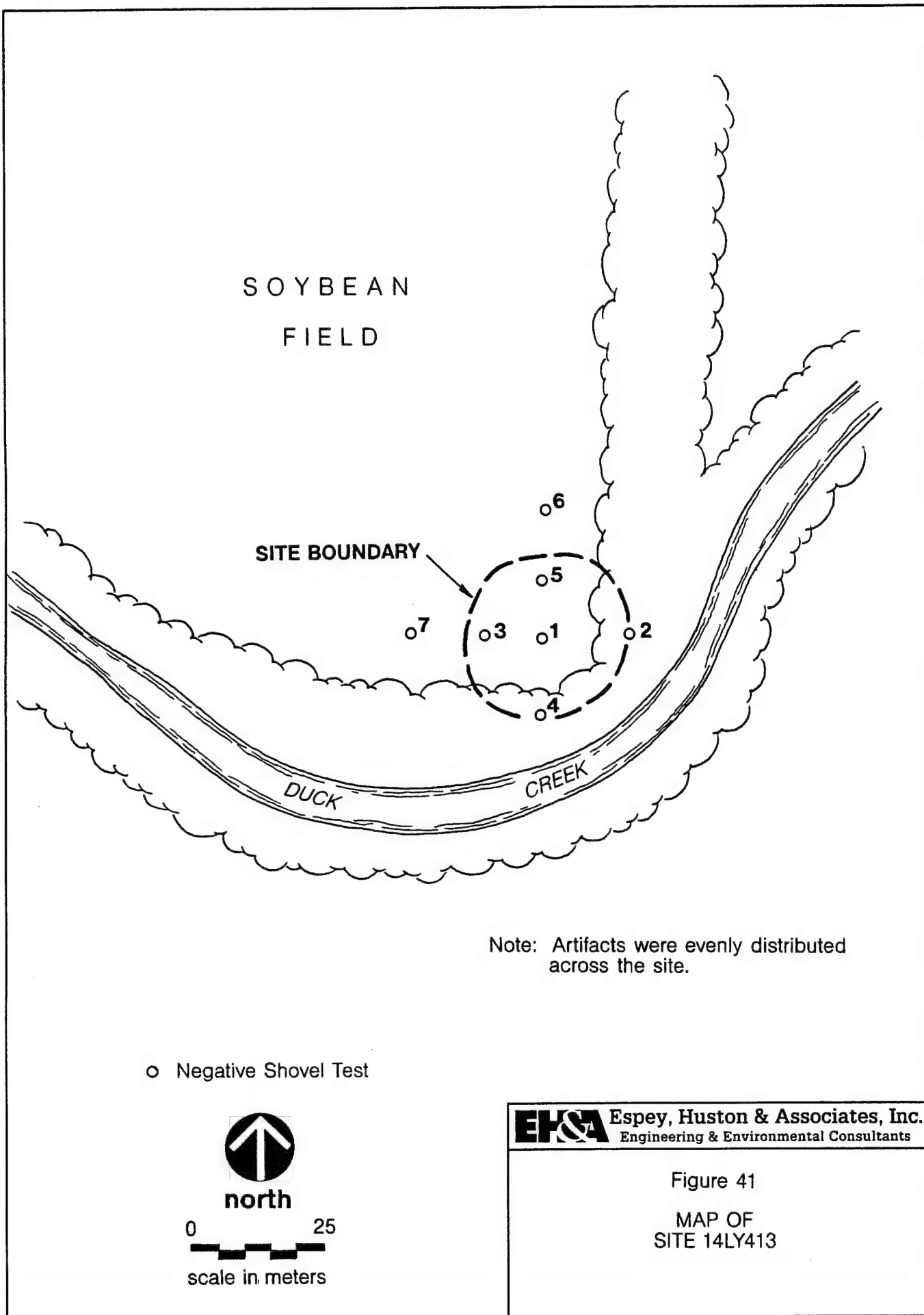
Site Name: None
Cultural Affiliation: Prehistoric--Early Ceramic/Middle Ceramic (Wright and Wright 1982b)
Topographic setting: Creek terrace
Parent material: Formed in silty and loamy alluvial sediments
Drainage: Duck Creek
Recording agency: Private--Dorothy L. and Carl M. Wright
Site size: 600 m² (25 x 30 m)
Surface visibility: Approximately 70 percent
Slope: 0-10° to the south
Surface vegetation: Primarily soybeans when recorded
Date of investigation: 23 August 1993
Land-use: Under cultivation when recorded
Elevation: 1,060 ft (323 m)

During the original recording of Site 14LY413 (Wright and Wright 1982b), material collected or observed include bones, teeth, limestone, sandstone, pottery, points. During the 1993 survey of the survey area, the surface of Site 14LY413 was intensively examined. Observed material included approximately 30 chert debitage fragments including two cores, several chert cobbles, and a single clay-tempered cordmarked ceramic body sherd which was collected. Many fragments of tabular sandstone were also observed. Seven shovel tests were conducted in the site area and vicinity but all were culturally sterile. The site is situated at the edge of a soybean field on an inside curve of Duck Creek, a perennial tributary of the Marais des Cygnes River (Figure 41). The soil of the site location is classified by the USDA-SCS (1981) as Reading silt loam. Reading soils are thought to be mid-Holocene-aged riverine alluvial formations of the greater Marais des Cygnes valley system. Because Reading soils have seen little alluvial accumulation in the past 2,500 years, the location of this Ceramic-aged site associated with Reading soils suggests a very limited potential for buried intact cultural deposits or features.

Site 14LY413 is not thought to be eligible for the NRHP. The site exhibits relatively sparse remains and appears to be a shallow manifestation limited to the surface and plowzone. Therefore, no further investigations are thought to be warranted or are recommended.

14LY414

Site Name: None
Cultural Affiliation: Prehistoric--Late Archaic/Early Ceramic and Middle Ceramic (Pomona) periods
Topographic setting: Natural levee above river
Parent material: Formed in silty and loamy alluvial sediments
Drainage: Marais des Cygnes River
Recording agency: Private--Dorothy L. Wright and Carl M. Wright



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Site size:	29,675: 300 m north-south by 100 m east-west
Surface visibility:	30 to 100 percent
Slope:	0-2° primarily to the south
Surface vegetation:	Primarily soybeans when recorded
Date of investigation:	20 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

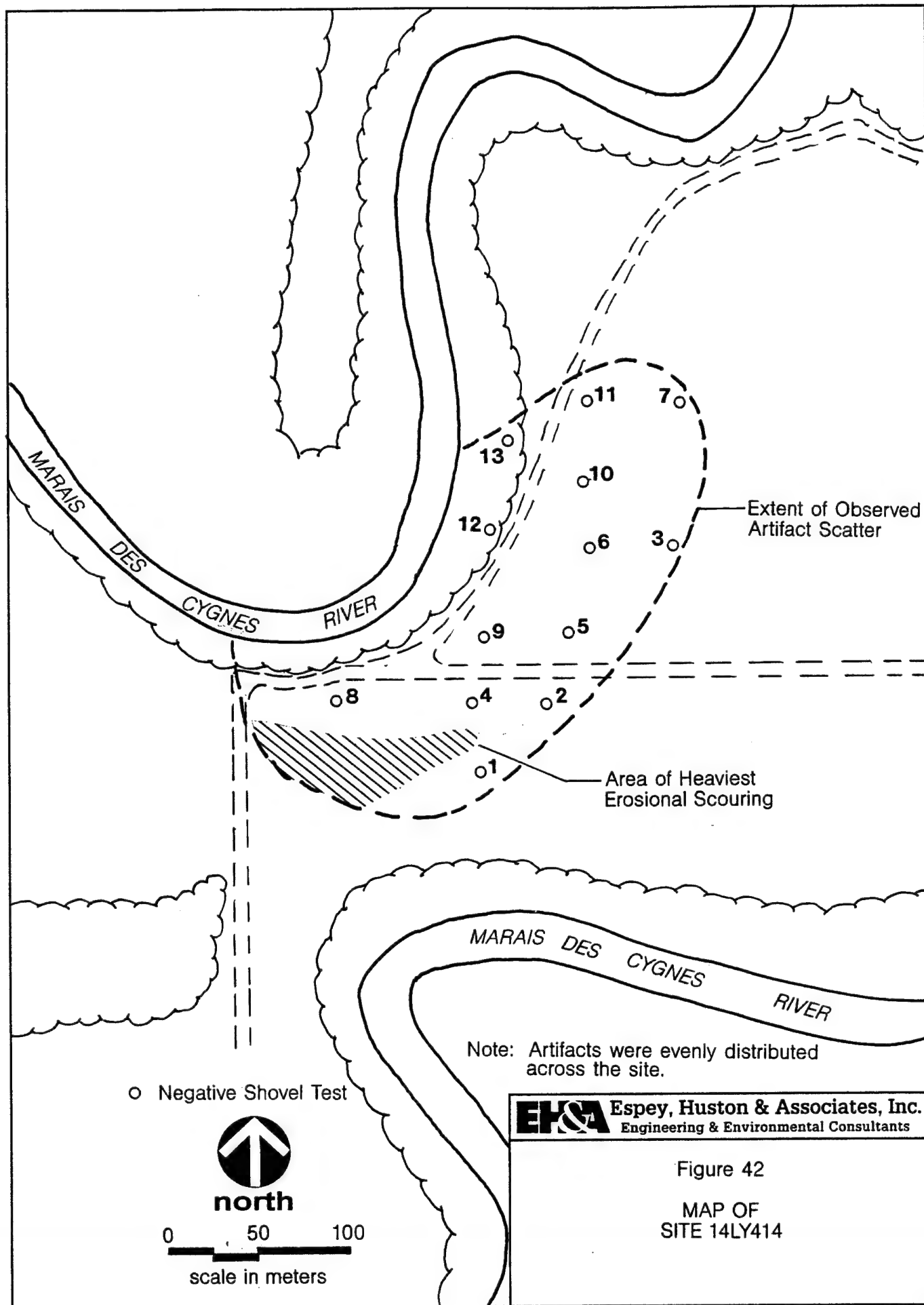
When site 14LY414 was first recorded (Wright and Wright 1982c), it was described as a light to heavy scatter of material 3 to 5 acres in size dating to the Early and Middle Ceramic periods. Excavations were later conducted at the site by Schmits in 1982 and 1984 (1988). Schmits documented a light surface scatter of 7.33 acres. He conducted 13 1- x 1-m test excavations and recovered 356 artifacts including 24 chipped stone tools and four ceramic sherds. He concluded that a shallow (0-30 cm), very heavily disturbed late Middle Ceramic period deposit and a deeper (50-80 cm) Late Archaic or Early Ceramic period deposit characterized the site. He recommended a determination of NRHP eligibility and stabilization or data recovery, based on the intact lower deposit. When examined by EH&A personnel during the present survey, most of the site had been planted in soybeans. It was noted that the southern part of the site had been impacted by scouring during the recent flooding during the summer of 1993 (Figure 42). Small piles of lithic artifacts and numerous footprints in the mud attested to recent visits by artifact collectors. Several artifacts were observed during the examination, including lithic bifacial fragments, cores, and debitage and scattered burnt rock fragments. No artifacts were collected. Thirteen shovel tests were conducted and no artifacts were located in a subsurface context.

During the present survey, no elements were observed which could lead to a change in the NRHP recommendation of Schmits' (1988) testing of the site in 1982 and 1984.

14OS16

Site Name:	None
Cultural Affiliation:	Unknown
Topographic setting:	River terrace
Parent material:	Alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Unknown
Site size:	Unknown--apparently about 60 m in diameter
Surface visibility:	Approximately 60 percent
Slope:	0-2° to the south
Surface vegetation:	Primarily soybeans when recorded
Date of investigation:	7 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

During the 1993 survey of the survey area, the reported location of site 14OS16 was intensively investigated and approximately 12 shovel tests were placed in the reported site location and surrounding vicinity. However, no cultural material was observed on the surface or located in



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shovel tests. It is apparent that the location on the original site form (KSHS 1981) is incorrect. The location description is confused but may be misplotted or refer to the location of Site 14OS130, recorded during the present survey and described above. As the information provided by the original site form is minimal, no realistic assessment of this possibility can be made.

No cultural material was observed at the reported location that would support a recommendation of NRHP eligibility. Therefore, no further investigations are recommended at this location.

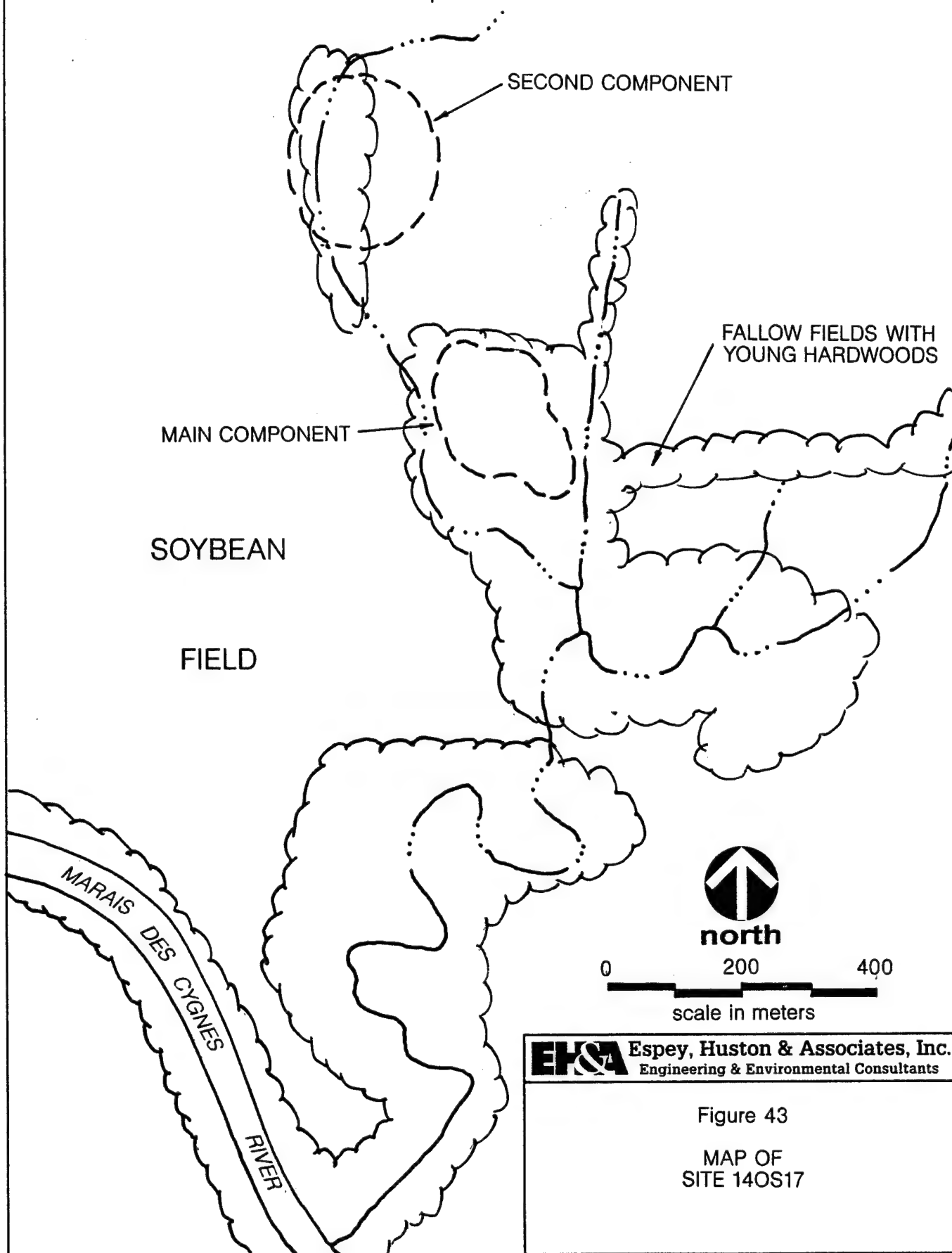
14OS17

Site Name:	None
Cultural Affiliation:	Prehistoric--Late Archaic, Early Ceramic period
Topographic setting:	River terrace
Parent material:	Alluvium
Drainage:	Marais des Cygnes River
Recording agency:	University of Kansas
Site size:	About 3 acres
Surface visibility:	About 70 percent in northern portion; 5 percent in southern portion
Slope:	0-5° primarily to the south
Surface vegetation:	Soybeans, big bluestem, little bluestem, switchgrass
Date of investigation:	23 August 1993
Land-use:	Under cultivation when recorded
Elevation:	1,060 ft (323 m)

Site 14OS17 was first recorded by John Eoff of the University of Kansas who observed a surface scatter of lithic artifacts and burnt rocks along Duck Creek a few hundred meters north of its confluence with the Marais des Cygnes River. Later avocational archaeologist Carl M. Wright collected extensively at the site (Wright 1981b, 1982) and identified two spatial separate components (Figure 43) which he correctly surmised represented Early and Late Archaic occupations of the locations. Excavations were later conducted at the site by Schmits in 1982-1984 (1988). Schmits confirmed that the main component of the site represented an Early Archaic occupation with activities such as hunting and butchering, lithic reduction, and hideworking, based on a functional interpretation of lithic material. At the second component located about 200 m to the northwest, he confirmed a Late Archaic occupation. His functional interpretation of recovered material suggest hunting and butchering and lithic reduction. Both components were located in the upper 50 cm of the soil profile. Schmits recommended NRHP eligibility for the site based on the site's research potential, particularly as Early Archaic sites are so rare in the region.

When examined by EH&A personnel during the present survey, the main component of the site had been removed from cultivation and was vegetated in 3-4 foot high natural grasses, predominantly big bluestem, little bluestem, and switchgrass. The second component was cultivated in soybeans. No shovel tests were conducted within either component due to the limited additional information that would be yielded and the additional impacts to the site that shovel testing would incur. In a surface inspection, no artifacts were observed at the main component due to the limited surface visibility. At the second component, approximately 50 fragments of lithic manufacturing

Note: Artifacts were evenly distributed in the northern component during the present survey, no artifacts were observed in the southern component.



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debris were observed including secondary and tertiary flakes as well as several exhausted cores. A sample of 10 flakes and three cores were collected from the surface.

During the present survey, no elements were observed which could lead to a change in the NRHP recommendation of Schmits' (1988) testing of Site 14OS17.

14OS117

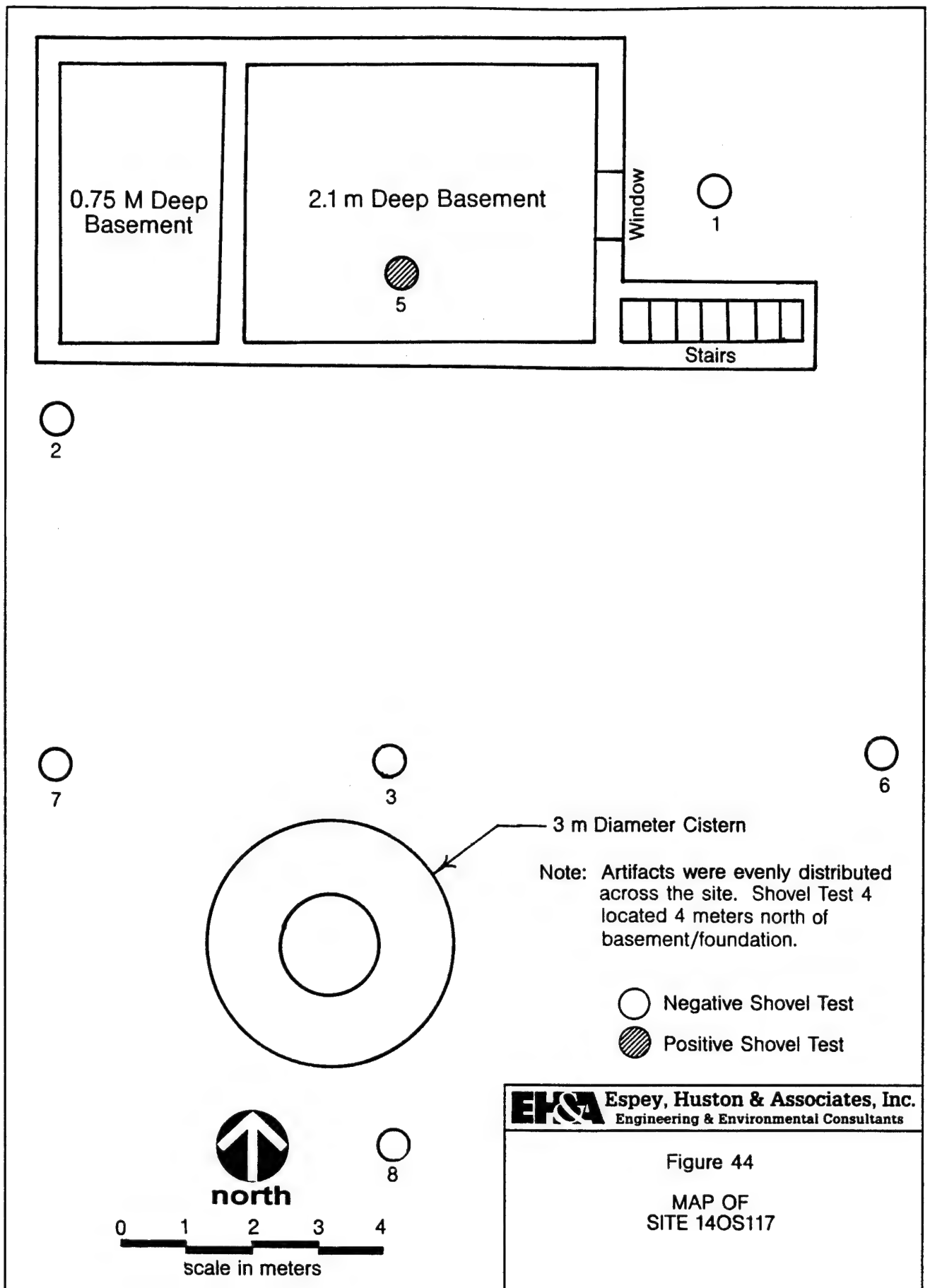
Site Name:	None
Cultural Affiliation:	Prehistoric--possible Early Ceramic and Historic--Early twentieth century, ca. 1900-1920
Topographic setting:	River bluff top
Parent material:	Material weathered from shale
Drainage:	Marais des Cygnes River
Recording agency:	Environmental Systems Analysis, Inc., Kansas City, Kansas
Site size:	About 1000 m ²
Surface visibility:	30 percent
Slope:	0-2° to the southwest
Surface vegetation:	Big bluestem, little bluestem, switchgrass
Date of investigation:	24 August 1993
Land-use:	Abandoned when recorded
Elevation:	1,050 ft (320 m)

When site 14OS117 was first recorded (Donohue 1982a), it was described as a probable Early Ceramic period camp location with a historic-aged foundation. Schmits (1988), however, stated that the prehistoric temporal and cultural affiliation was undetermined. Material observed included lithic debitage, tools, two projectile points, and burnt rocks. During the present investigation, the only prehistoric material observed on the ground surface was a single chert tertiary flake.

During the present survey, the previously noted historic foundation, a basement remnant, was relocated (Figure 44). The feature is approximately 9 m by 5 m and separated into two sections: a larger area approximately 6 by 5 m and 2.1 m deep, and a smaller area approximately 3 x 4 m and 0.75 m deep. Both sections were lined with walls of unfinished native limestone, chinked with soft mortar. The basement was oriented approximately east-west with a stone staircase extending eastwardly for about 3 m from the southeastern corner. The walls of the feature extended above the ground surface only a few cm. A window about 1.0 m in width is located centrally on the eastern wall.

Additionally, a second historic feature, a cistern, was located about 10 m to the south of the foundation. The cistern is still intact although partially filled by sediment. It is approximately 3 m in diameter and concrete-lined except for the curved top which is brick-lined with dry-pressed bricks with an approximate 1-m diameter opening. The depth of this feature could not be discerned.

Eight shovel tests were conducted in the vicinity of the foundation and cistern. All were culturally sterile except shovel test 5, placed in the fill in the bottom of the deep portion of the



basement where an aqua jar base was located at a depth of about 20 cm. A compact reddish brown clay hardpan was encountered at 25 cm in depth which was presumed to be the original basement floor. Surface artifacts observed include a nickel-silver cutlery knife, a fragmentary milkglass canning jar lid insert, three sherds of a late refined earthenware plate, an aqua glass bottle or jar fragment, the base of a brown glass bottle (Figure 45). The embossed trademark on this basal fragment, an "I" within a diamond, indicates manufacture by the Illinois Glass Company between 1916 and 1929 (Rosenberg and Kvietok 1981:29). All were collected. Review of the 1886 Osage County map also indicates that a school structure identified as School District 23 was located in the general vicinity of the structure. It is possible that the site is the remnant of a former schoolhouse used during the late nineteenth century.

The soil of the site location is classified as Lebo-Summit silty clay loams (USDA-SCS 1985). Lebo and Summit soils are Tertiary-aged alluvial formations characteristic of upland terraces of the area. Based on observations during the survey, the soil in the upper 40 cm was a silty loam or silty clay loam. Lenses of varied-sized gravels were common and outcrops of gravel were present in the site area and vicinity.

It is difficult to evaluate the prehistoric component since only a single artifact was located. However, the site is located on Tertiary-aged terraces which offer little potential for deeply buried cultural deposits. Concerning the historic component, no indication of a structure is shown on the 1861 GLO map of the area. Deed research revealed that the land parcel within which Site 14OS117 is located was patented and purchased by J. McManus in 1865. The property passed to a Seyferl McManus in 1867. In 1872, J.C. Thomas purchased a 40-acre parcel which contains the site and sold it to a L. Humphrey in 1876 (Osage County Records, Lyndon). The L. Humphrey house is shown located approximately 150 m to the north in Osage County Atlases of 1879, 1899, and 1918. Schmits (1988:196) suggests that the foundation may represent an outbuilding of the Humphrey's homestead. It also seems possible that the Humphrey's homestead was slightly mislocated in county atlases, and the remains represent the main structure of the farmstead. This view is supported by the presence of a nearby cistern, and the absence of located remains at the supposed Humphrey's house location 150 m to the north. Detracting from this hypothesis is the general paucity of artifacts and the lack of artifacts suggestive of a nineteenth century occupation. For the same reason, the possibility that the structure is the remains of a schoolhouse seems questionable. Schmits (1988) also suggests the possibility that the structure is one of the 164 houses constructed by the federal government in 1858 for the Sac and Fox Indians along the Marais des Cygnes River. Although there is no specific evidence to refute this hypothesis, house construction with a stone-lined basement seems inconsistent with pre-Civil War mass-production government-constructed housing.

The prehistoric component of Site 14OS117 is not thought to be eligible for the NRHP. The general paucity of remains and the limited potential for intact buried cultural features or deposits suggests that more intensive investigation of the site would yield only minimal additional information and no further investigation is thought to be warranted.

Based on the present questions that remain about the historic remains, it is the opinion of the Principal Investigator that the site may be eligible for the NRHP under criterion d, i.e., that

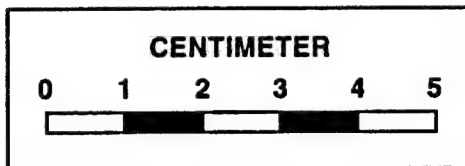
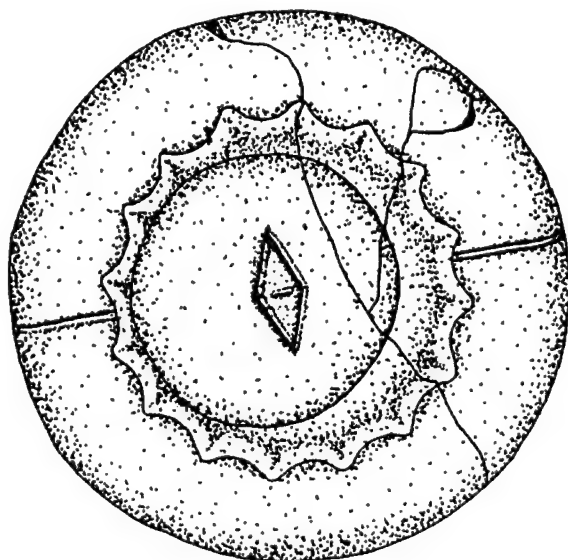


Figure 45: Brown bottle base recovered from Site 41OS117 indicating manufacture between 1916 and 1917.

it exhibits potential to yield information important in our understanding of the history of the area during the Period of Rural and Agricultural Dominance (1865-1900). Topics which the site may contribute new information include reconstruction of past lifeways through examination of subsistence, material cultural practices, site structure. Avoidance or further investigation to NRHP eligibility is recommended for Site 14OS117.

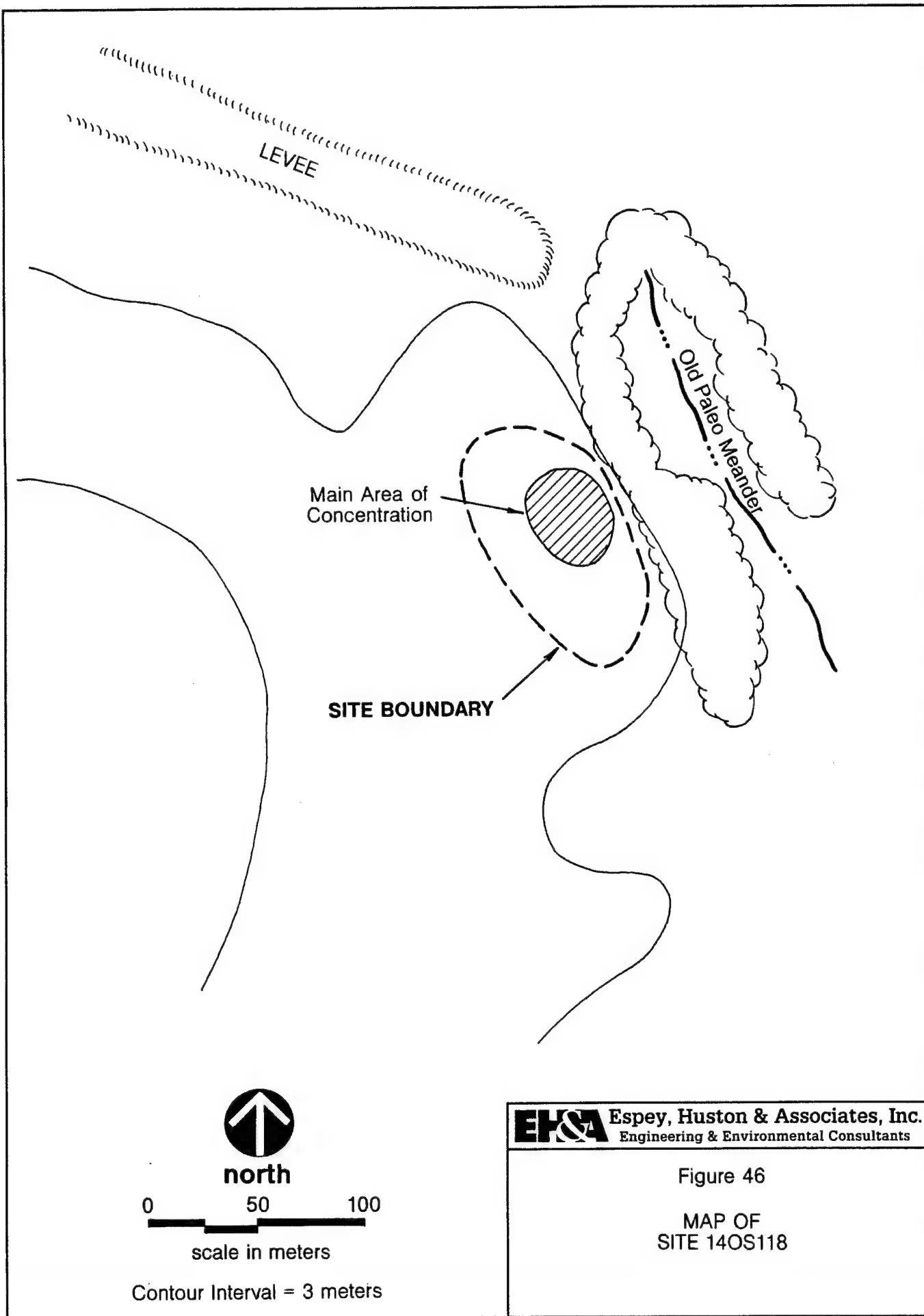
14OS118

Site Name:	None
Cultural Affiliation:	Prehistoric--Late Archaic, Early Ceramic
Topographic setting:	River terrace
Parent material:	Alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Environmental Systems Analysis, Inc., Kansas City, Kansas
Site size:	5,000 m ²
Surface visibility:	About 40 percent
Slope:	0-2° primarily to the east
Surface vegetation:	Soybeans, big bluestem, little bluestem, switchgrass
Date of investigation:	20 September 1993
Land-use:	Partially abandoned, partially under cultivation
Elevation:	1,045 ft (319 m)

When Site 14OS118 was first recorded (Donohue 1982b; Schmits 1988), it was described as a large, light to moderate density lithic scatter. It is located a few hundred m northwest of the confluence of Puleston Creek with the Marais des Cygnes River along the bank of a paleomeander that is largely silted in (Figure 46). The site has been impacted by historic and ongoing cultivation and construction of a nearby levee. The soil is classified as Dennis silt loam (USDA-SCS 1985), probably formed during the Tertiary. Schmits (1988) conducted NRHP testing of the site. He found the site to represent a probable Early Ceramic occupation suggestive of a large hunting camp. Cultural material was limited to the upper 25 cm of depth. Despite the lack of vertical integrity due to the shallow depth of deposits, Schmits felt that because of the high density of artifacts, systematic mapping and analysis of recovered material could provide valuable data on the internal structure of Early Archaic hunting camps. He therefore recommended NRHP eligibility for the site.

When the site was examined during the present survey, it had been impacted by scouring of high waters during the 1993 flooding, apparently washing away a minor portion of the upper soil zone. Most of the site was under cultivation with the northeastern third in natural grasses and shrubs. No shovel testing was conducted to avoid further damage to the site. Surface visibility was relatively good and observed cultural material included lithic debitage, cores, several chert cobbles, and burnt rock fragments, totaling about 40 artifacts. No artifacts were collected.

During the present survey, no elements were observed which could lead to a change in the NRHP recommendation of Schmits' (1988) testing of Site 14OS118.



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14OS351

Site Name: None
 Cultural Affiliation: Prehistoric--Ceramic period
 Topographic setting: River terrace
 Parent material: Alluvium
 Drainage: Marais des Cygnes River
 Recording agency: Susan B. Traub
 Site size: About 20 acres
 Surface visibility: None. The site was inundated
 Slope: 0-2° primarily to the east
 Surface vegetation: Undetermined
 Date of investigation: 20 September 1993
 Land-use: Unknown
 Elevation: 1,040 ft (317 m)

When site 14OS351 was first recorded (Traub 1975), it was described as a large artifact scatter situated primarily on several ridges (knolls?) in a cultivated field. Material included cord roughened clay-tempered plain-bodied ceramics, eared projectile points, lithic debitage and daub. NRHP testing was recommended to determine eligibility. During EH&A's 1993 survey, the site was inundated. It was also immediately outside of the designated survey area. Therefore, no changes in Traub's (1975) recommendations are warranted.

14OS352

Site Name: None
 Cultural Affiliation: Prehistoric--Undetermined, probable Archaic period
 Topographic setting: River terrace
 Parent material: Alluvium
 Drainage: Marais des Cygnes River
 Recording agency: Susan B. Traub
 Site size: About 2.5 acres
 Surface visibility: About 60 percent
 Slope: 0-2° primarily to the south
 Surface vegetation: Soybeans
 Date of investigation: 20 September 1993
 Land-use: Under cultivation when recorded
 Elevation: 1,045 ft (319 m)

When site 14OS352 was first recorded (Traub 1975), it was described as a small surface scatter of lithic material and daub. Two thumbnail scrapers were the only tools observed. NRHP testing was recommended to determine eligibility. NRHP testing was later conducted at the site by Schmits in 1982-1984 (1988). He conducted 21 shovel tests with negative results. Seven 1-x 1-m test units yielded a total of 28 artifacts in the upper 40 cm. Schmits suggested that remains indicated a small unknown hunting camp of unknown cultural affiliation. The site was not thought to be eligible for the NRHP and no further work was recommended.

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When examined by EH&A personnel during the present survey, the site was cultivated in soybeans. Surface visibility was good. The site had been impacted by construction of a large levee immediately north of the site. Observed artifacts include several burnt rock fragments and about 35 lithic artifacts including three cores and a medial section of a small biface, probably a large projectile point. Three concentrations of surfacial cultural material were observed (Figure 47). Six shovel tests were conducted. All were negative. The soil stratigraphy consisted of a very dark grayish brown silty clay which became compact at the base of the plow zone (ca. 20 cm) and slightly lighter in hue at a depth of about 30 to 35 cm.

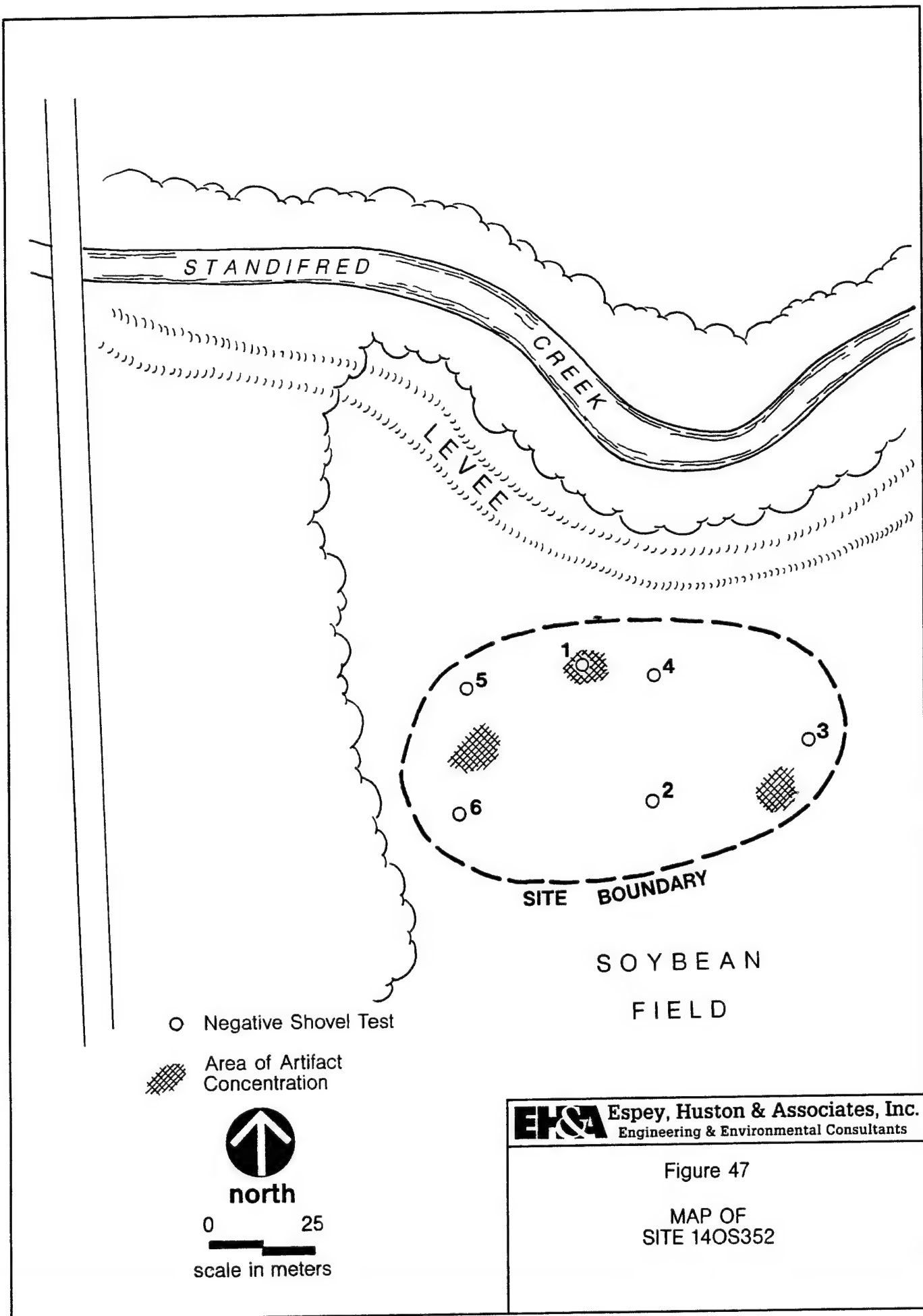
During the present survey of Site 14OS352, no elements were observed which could lead to a change in the NRHP recommendation of Schmits' (1988) testing of the site.

14OS353

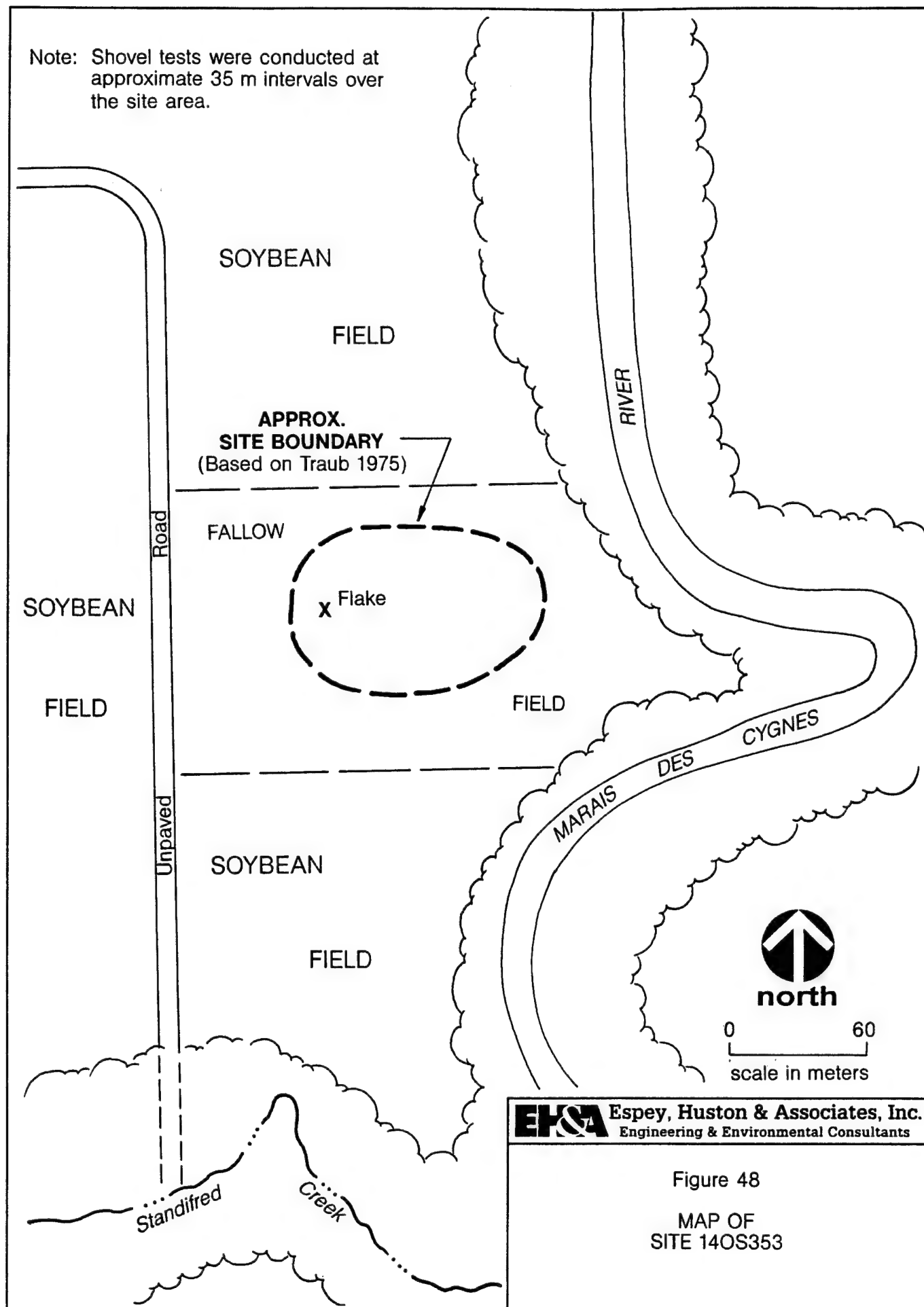
Site Name:	None
Cultural Affiliation:	Prehistoric--Ceramic period
Topographic setting:	River terrace
Parent material:	Alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Susan B. Traub
Site size:	About 2.5 acres
Surface visibility:	30 percent
Slope:	0-2° primarily to the east
Surface vegetation:	Little bluestem, switchgrass
Date of investigation:	18 September 1993
Land-use:	Fallow when recorded
Elevation:	1,045 ft (319 m)

When site 14OS353 was first recorded (Traub 1975), it was described as small scatter of lithic material, probably representing a campsite. A single grit-tempered ceramic sherd was observed. NRHP testing was recommended to determine eligibility. When examined by EH&A personnel during the present survey, a large area within which the site was located was fallow or had been removed from cultivation (Figure 48). Natural grasses covering the site had been stunted by recent flooding, but no significant erosion had occurred. One lithic flake was the only artifact located on the ground surface. Intensive shovel testing failed to reveal any additional material. The soil of the site location is classified as an Osage silty clay, part of the Verdigris-Osage association (USDA-SCS 1985), probably formed during the middle Holocene epoch. The soil, as observed in shovel testing consisted of a very dark grayish brown silty clay which became compact at approximately 15 to 20 cm. This compact zone continued to a depth of at least 40 cm.

The site is not thought to be eligible for the NRHP for the following reasons. No features or areas of specific functional activity could be identified. The paucity of artifacts is not conducive to more intensive analysis. The single observed artifact was located on the surface in a context that has been heavily disturbed by historic agriculture. No further investigation is thought to be warranted.



Note: Shovel tests were conducted at approximate 35 m intervals over the site area.



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Figure 48
MAP OF
SITE 14OS353

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14OS354

Site Name:	None
Cultural Affiliation:	Prehistoric--Ceramic Period
Topographic setting:	River terraces
Parent material:	Alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Susan B. Traub
Site size:	About 20-30 acres
Surface visibility:	25 percent
Slope:	0-5° varying but generally to the south
Surface vegetation:	Riverine hardwood timber
Date of investigation:	23 August 1993
Land-use:	Abandoned when recorded
Elevation:	1,050 ft (320 m)

When site 14OS354 was first recorded (Traub 1975), it was described as a large scatter of ceramics, daub, burnt rocks, and lithic artifacts including a small triangular projectile point artifact. The site was freshly planted in wheat when Traub's survey was conducted. She described the site as containing a series of natural levees/terraces. She stated that concentrations of artifacts were located on the river side of the second levee.

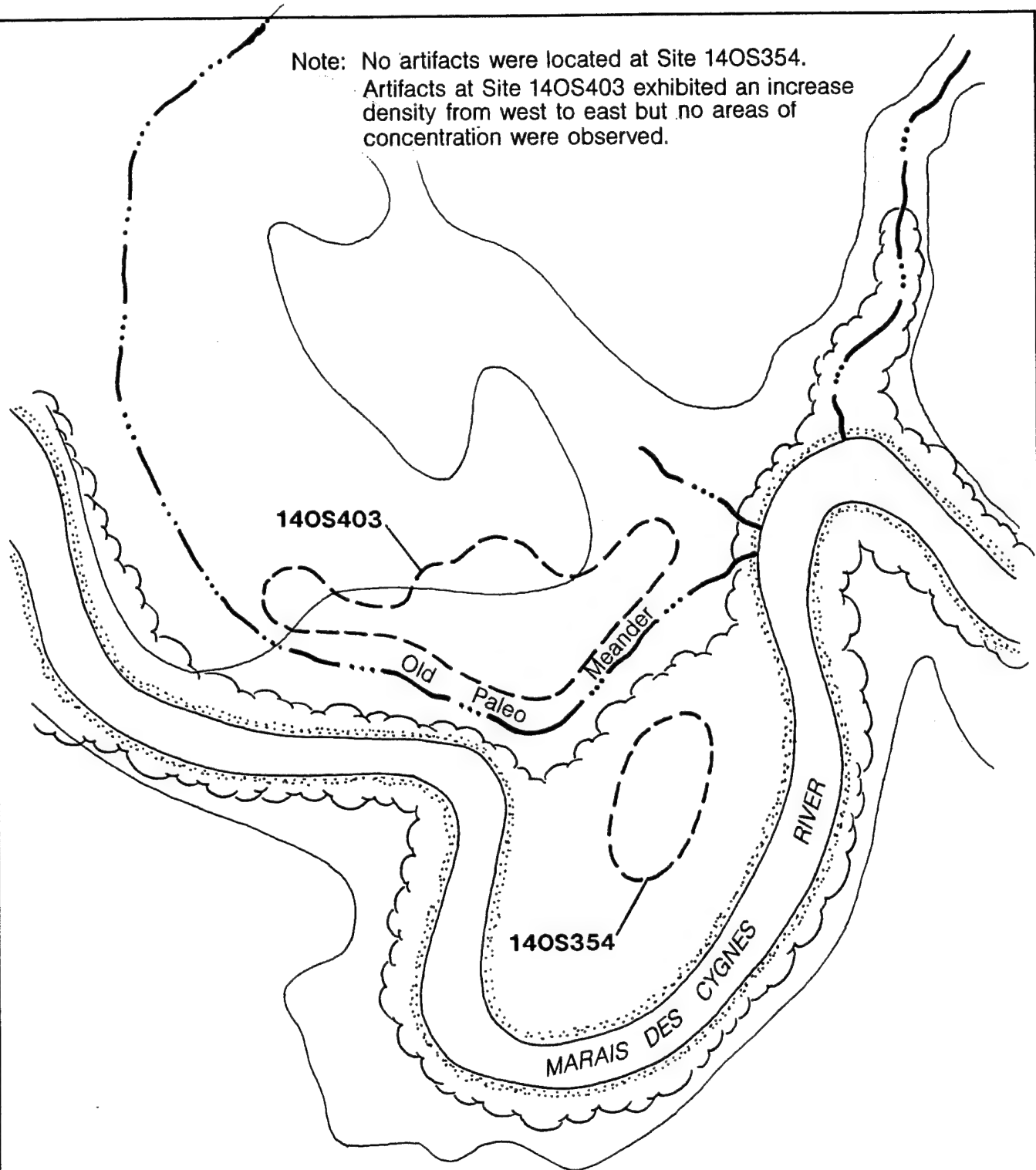
During the present survey, the area indicated as the site location was examined by EH&A personnel. Although the ground surface was intensely examined and 12 to 15 shovel tests were conducted in the approximate location, no cultural resources could be located. The site location was vegetated in hardwood timber at the time of the survey. The fact that much of the timber appeared to be about 25 years old, and Traub's survey described the site as under cultivation, called into question the accuracy of the site location. Traub also described the site as occupying 20 to 30 acres. However the small oxbow area indicated as the site location (Figure 49) has a maximum area of approximately 8 acres. Based on the topographic description, it appears possible that Site 14OS354 was mislocated and the topographic description refers to Site 14OS403, located a short distance to the northwest and described below.

No cultural material was observed at the reported location that would support a recommendation of NRHP eligibility for this location. Therefore, no further investigations are recommended at this location.

14OS403

Site Name:	None
Cultural Affiliation:	Prehistoric--Ceramic Period, probably Pomona
Topographic setting:	River terrace
Parent material:	Alluvium
Drainage:	Marais des Cygnes River
Recording agency:	Private--Dorothy L. Wright
Site size:	20,000 m ² : 300 m east-west by 100 m north-south
Surface visibility:	30 percent

Note: No artifacts were located at Site 140S354.
Artifacts at Site 140S403 exhibited an increase
density from west to east but no areas of
concentration were observed.



north

0 100

scale in meters

Contour Interval = 3 meters



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Figure 49

MAP OF
SITE 140S354 AND
SITE 140S403

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Slope: 0-10° primarily to the south
Surface vegetation: Big bluestem, little bluestem, switchgrass
Date of investigation: 23 August 1993
Land-use: Fallow when recorded
Elevation: 1,050 ft (320 m)

Site 14OS403 was initially recorded by Dorothy L. Wright in 1980. She described the site as a one-acre area where she observed a scatter of burnt stones, *Pomona* pottery, cores, flakes, and sparse daub atop a low terrace on a north inside curve of a former channel. Among her collected material, she notes *Harrell*, *Washita*, *Huffaker*, *Scallorn*, *Catan*, *Palmillas*, and *Sequoyah* points, abraders, chipped stone celts, *Pomona* pottery, and knives. Wright noted that the material appeared to be clustered in three discrete locations along the terrace edge (Wright 1980).

During the present investigation, the site area was fallow and heavily overgrown with native grasses. The site is situated on the edge of a low terrace along a mostly filled-in paleomeander of the Marais des Cygnes River (Figure 49). The paleomeander was more apparent than normal during the survey because it had been inundated during the 1993 summer flooding and was a muddy strip devoid of vegetation. Heavy erosion was locally apparent along the terrace edge with artifacts apparent in a secondarily deposited context. The soil of the site location is classified as an Osage silty clay, part of the Verdigris-Osage association (USDA-SCS 1985), probably formed during the middle Holocene epoch.

A sparse scatter of lithic material and a few scattered burnt stone fragments were observed on the ground surface. The three clusters that Wright noted could not be discerned. However, Wright's survey of the site had the advantage of being done immediately after the ground surface had been tilled in May 1980. The extent of the artifact distribution did conform to Wright's, but the only spatial relationship noted during the present survey was a slight heavier density of material in the eastern part of the site. Thirteen shovel tests were conducted at the site location. All were culturally sterile. The soil stratigraphy exhibited in shovel tests consisted of a very dark grayish brown silty clay which became slightly lighter in hue at a depth of about 35 cm. The approximate upper 30 cm of the profile exhibited evidence of disturbance in the form of recent organic material intermixed in upper 20 to 25 cm.

Although little was observed during the present survey which might suggest NRHP eligibility, material observed during the original recordation suggests a potential for intact cultural deposits and features including possible buried structural remains. Therefore, testing to determine NRHP eligibility should be conducted if future ground-disturbing activities are anticipated.

VI: SUMMARY AND CONCLUSIONS

SUMMARY OF RESULTS

This Phase II survey of the 5,400-acre project area resulted in the discovery of 32 cultural resource sites (Table 6). Of these, 22 sites were previously unrecorded (indicated by asterisk). They include 12 prehistoric sites (14LY100, 14LY101, 14LY102, 14LY103, 14LY104, 14LY105, 14LY106, 14LY107, 14OS130, 14OS132, 14OS139, 14OS142), six historic sites (14OS129, 14OS133, 14OS135, 14OS136, 14OS140, and 14OS141), and four sites with both historic and prehistoric components (14OS131, 14OS134, 14OS137, and 14OS138). Of these sites, 14OS130 and 14OS135 are thought to be potentially eligible for the NRHP.

Fourteen previously recorded sites which were within or near the project area were also investigated. All were prehistoric except site 14OS117 which also had a historic component and site 14OS16 for which no cultural information was known. Four of these previously recorded sites (14LY408, 14OS117, 14OS351, and 14OS403) are thought to be potentially eligible for the NRHP. Three sites (14LY414, 14OS17, and 14OS118) are considered eligible for the NRHP, based on the results of previous investigations at these sites (Schmits 1988). The seven remaining sites (14LY410, 14LY412, 14LY413, 14OS16, 14OS352, 14OS353 and 14OS354) are not considered eligible for nomination to the NRHP. Investigation of sites 14LY410, 14OS16, and 14OS354 failed to yield any cultural resources and are thought to be mislocated. Sites 14LY412, 14LY413, and 14OS353 yielded only sparse remains which appeared to be surficial and heavily disturbed such that they lacked sufficient integrity for NRHP eligibility.

In addition to those sites recommended as potentially eligible for the NRHP by the authors of this report, four other sites (14LY103, 14LY412, 14LY413, and 14OS139) were recommended for further evaluation by the Kansas State Historic Preservation Officer. However, all of these sites exhibit sparse cultural remains, little potential for intact buried cultural deposits, and heavy disturbance by past agricultural activity. We therefore maintain that they warrant no further investigation.

GOALS FOR FUTURE RESEARCH

All of the sites recommended above for further investigation are so recommended because it is believed that they exhibit, or may exhibit the potential to be eligible for the NRHP under criterion d, i.e., that they "have yielded, or may be likely to yield, information important in prehistory or history." Following is a discussion of research questions for the sites which have been recommended. Questions fall into two non-exclusive categories: 1) those questions which need to be answered to determine NRHP eligibility; and 2) those questions which are important to our understanding of the prehistory or history of the region. Excluded from the following discussion are sites 14LY414, 14OS17, and 14OS118, for which such questions have been examined more explicitly in their NRHP testing performed by Schmits (1988), than the limited examination performed by the present investigation.

TABLE 6: STATUS OF RECORDED CULTURAL RESOURCE SITES WITHIN SURVEY AREA

Site No.	Condition	Cultural Affiliation of Components	NRHP Eligibility
* 14LY100	Under cultivation	Prehistoric--Undetermined	no
* 14LY101	Under cultivation	Prehistoric--Undetermined	no
* 14LY102	Under cultivation	Prehistoric--Undetermined	no
* 14LY103	Under cultivation	Prehistoric--Early Ceramic	no
* 14LY104	Under cultivation	Prehistoric--Undetermined	no
* 14LY105	Under cultivation	Prehistoric--Undetermined	no
* 14LY106	Under cultivation	Prehistoric--Undetermined	no
* 14LY107	Under cultivation	Prehistoric--Undetermined	no
14LY408	Under cultivation	+ Prehistoric--Early Ceramic	potential
		+ Prehistoric--Middle Ceramic Pomona	potential
14LY410	Under cultivation	+ Prehistoric--Middle Ceramic Pomona	no
14LY412	Under cultivation	+ Prehistoric--Early Ceramic	no
14LY413	Under cultivation	+ Prehistoric--Early or Middle Ceramic	no
14LY414	Under cultivation	Prehistoric--Late Archaic or Early Ceramic	yes
		Prehistoric--Middle Ceramic	yes
14OS16	Under cultivation	Unknown	no
14OS17	Under cultivation	Prehistoric--Early or Middle Archaic	yes
		Prehistoric--Late Archaic	yes
14OS117	Abandoned, wooded	Prehistoric--possible Early Ceramic	no
		Historic--Early 20th century or earlier	potential
14OS118	Under cultivation, partially abandoned	Prehistoric--Late Archaic	yes
		Prehistoric--Early Ceramic	yes
* 14OS129	Abandoned, wooded	Historic--20th Century Euro-American	no
* 14OS130	Under cultivation	Prehistoric--Early Ceramic	potential
* 14OS131	Under cultivation	Prehistoric--Ceramic periods	no
		Historic--Early to mid-20th century	no
* 14OS132	Under cultivation	Prehistoric--Undetermined	no
* 14OS133	Under cultivation	Historic--Late 19th to early 20th century	no
* 14OS134	Under cultivation	Prehistoric--Undetermined	no
		Historic--Late 19th or early 20th century	no
* 14OS135	Abandoned, wooded	Historic--Late 19th to early 20th century	potential
* 14OS136	Abandoned, wooded	Historic--Early to late 20th century	no
* 14OS137	Under cultivation	Prehistoric--Undetermined	no
		Historic--Early to late 20th century	no
* 14OS138	Under cultivation	Prehistoric--Undetermined	no
		Historic--Early 20th century	no
* 14OS139	Under cultivation	Prehistoric--Undetermined	no
* 14OS140	Abandoned, wooded	Historic--Early to mid-20th century	no
* 14OS141	Abandoned, wooded	Historic--Early 20th century	no
* 14OS142	Under cultivation	Prehistoric--Undetermined	no
14OS351	Inundated during survey	Prehistoric--Ceramic period	potential
14OS352	Under cultivation	Prehistoric--Undetermined, probable Archaic	no
14OS353	Fallow, stable	Prehistoric--Ceramic period	no
14OS354	Abandoned, wooded	Prehistoric--Ceramic period	no
14OS403	Fallow, eroding	+ Prehistoric--Middle Ceramic Pomona	potential

* Recorded during present survey

+ Component previously identified by avocational recorder which could not be confirmed by survey

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Site 14LY408

- 1) Does this site exhibit intact or partially intact cultural features, and if so, what is the nature of the features and where are they located within the site?
- 2) Are the two temporal periods represented at the site stratigraphically discrete?
- 3) Can the function of the site be clearly defined?
- 4) Can the function of the site and the spatially separate components observed at the site be defined?
- 5) How does the site relate to nearby sites of the same temporal periods?
- 6) How is the material cultural of the Early and Middle Ceramic periods in the Melvern Lake area manifested at this site?
- 7) How is are intra-site settlement patterns of the Early and Middle Ceramic periods in the Melvern Lake area manifested at this site?

These research questions can be addressed initially by subsurface testing of the site involving extensive shovel testing and limited excavation of larger units in areas of high potential for intact cultural features or deposits based on shovel testing.

Site 14OS117

- 1) What type of historical function or functions did this site serve?
- 2) What was the specific period of occupation or use of the site?
- 3) What is the cultural/ethnic affiliation of the individuals who resided here or used the site, if it is not residential in function?
- 4) What information can the site provide about lifeways during the Period of Rural and Agricultural Dominance (1865-1900)
- 5) If the site is the remains of a Federally constructed house of the Sac and Fox Indians, what information can it provide concerning aboriginal American occupation of the area during the Period of Exploration and Settlement (1820-1865)?
- 6) If the site is a schoolhouse remnant, would further investigation of the site add significantly to our historical knowledge.

More in-depth historical research is the primary research need. An oral historical approach, coupled with a detailed review of archival sources should be able to determine with relative certainty whether the site represents the remnant of a Federally constructed house for Sac and Fox Indians, a schoolhouse remnant, part of the L. Humphrey's farmstead, or something else entirely.

Site 14OS130

- 1) Does this site exhibit intact or partially intact cultural features, and if so, what is the nature of the features and where are they located within the site?
- 2) Is the site made up of a single temporal component or multiple temporal components, and if multiple components are present, are they stratigraphically discrete?
- 3) Can the function of the site be clearly defined?
- 4) Can discrete spatial components be identified within the site and their function defined?
- 5) How does the site relate to nearby sites of the same temporal period?
- 6) How is the material cultural of the Early Ceramic period in the Melvern Lake area manifested at this site?
- 7) How is are intra-site settlement patterns of the Early Ceramic periods in the Melvern Lake area manifested at this site?

A program of intensive shovel testing, coupled with limited test excavations, are needed to address the above research questions.

Site 14OS135

- 1) What is the specific period of occupation of the site?
- 2) What is the extent of disturbance that the site has undergone?
- 3) What is the cultural/ethnic affiliation of the individuals who lived here?
- 4) How are subsistence and material cultural practices during the Period of Rural and Agricultural Dominance (1865-1900) in the Melvern Lake area manifested at this site?

Limited excavation, coupled with more detailed archival research and oral historical investigation is needed to determine NRHP eligibility.

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Site 14OS351

- 1) What is the specific period of occupation of the site?
- 2) Is the site made up of a single temporal component or multiple temporal components, and if multiple components are present, are they stratigraphically discrete?
- 3) What is the extent of disturbance that the site has undergone?
- 4) Does this site exhibit intact or partially intact cultural features, and if so, what is the nature of the features and where are they located within the site?
- 5) Can the function of the site be clearly defined?

As the site was inundated at the time of the survey and could not be examined, it is particularly difficult to what questions might be pertinent to future research. Extensive shovel testing to determine the vertical extent of deposits, followed by limited test units in areas of high potential would probably address most of the research questions posed for this site.

Site 14OS403

- 1) What is the specific period or periods of occupation of the site?
- 2) Is the site made up of a single temporal component or multiple temporal components, and if multiple components are present, are they stratigraphically discrete?
- 3) As the site exhibits apparent evidence of extensive disturbance, is it important to determine if any intact or partially intact cultural features or deposits are present?
- 4) If cultural features are present, what is the nature of the features and where are they located within the site?
- 5) If the site represents the Pomona culture, how is the material cultural of the Pomona culture in the Melvern Lake area manifested at this site?
- 6) If the site represents the Pomona culture, how are intra-site settlement patterns of this culture in the Melvern Lake area manifested at this site?

These research questions can be addressed initially by subsurface testing of the site involving extensive shovel testing and limited excavation of larger units in areas of high potential for intact cultural features or deposits based on shovel testing.

RESEARCH QUESTIONS FROM THE RESEARCH DESIGN

Although few research questions can be realistically addressed at the survey level of investigation, it is useful to utilize some general questions which can serve to drive the investigation toward problems pertinent to the study area. Five general research questions were devised in the project research design that it was thought the present study had the potential to address.

- 1) Was the predictive model accurate? Also, what other factors can be identified which determine site location?

Prehistoric Model

Based on the results of past investigations in the project vicinity and the region, several general principles of site location were devised. It was hypothesized that proximity to a permanent or seasonal water source was a primary criterion for site selection except for very ephemeral site types. It was suggested that small seasonal or ephemeral camps were typically located on natural levees adjacent to permanent or seasonal drainages or nearby points of higher elevation such as small knolls along the floodplain or promontories overlooking floodplains. It was further suggested that larger more permanent habitation sites occurred in these locales, but also tended to occur at the lateral margins of valley floors.

In general, prehistoric site locations coincided with expectations. All located sites were within 180 m of a perennial or major seasonal stream, or a paleomeander indicative of a former major stream. Most were much closer. Sites occur in the topographic situations predicted except for valley floor margins which did not seem to be a useful criterion, at least within the present project area.

Historic Model

It was suggested that historic habitation sites were more common on gently sloping ridge crests in the foothills at the edges of valleys, and near historic roads or railway routes. Generally these criteria proved accurate except for the suggestion that proximity to railway routes might indicate high site probability. No sites were located in this context. In hindsight, it appears likely that such sites, related to track construction, water or fuel stops, or small shipping/receiving points, although fairly common along rural line segments, would more likely have been associated with the nearby town of Reading in this particular locational situation.

Buried Resources

Soil formation was used to evaluate potential for buried cultural resources. The most recent Verdigris associated soils were thought to have the highest potential for buried deposits since they continue to accrue to the present day. The next higher and older formation, Osage soils, were thought to have potential for older buried deposits (i.e., through the middle Holocene), but more recent deposits (i.e., post-middle Holocene) would be on the ground surface or in the plowzone. Soils of the uplands above the floodplain dating to the pre-Holocene were thought to have little or

no potential for deeply buried deposits. In general, little data was obtained to evaluate these hypotheses. No previously unknown deeply buried sites were located in the survey. However, those that are datable do correlate with expectations based on formation periods of soil types. For example, no older, pre-Ceramic sites were located on Verdigris associated soils. However, to really gain a deep understanding of occupational chronology as it relates to the areal depositional regime, a closer analysis of the depositional history of the greater Marais des Cygnes River valley utilizing radiocarbon dating of humates will be necessary.

- 2) Was the current level of investigation adequate to locate specific activity sites which may have a small representation in the archaeological record?

Certainly the level of investigation was able to locate some specific activity sites. It is clear that some of the newly located prehistoric sites within the project area fall into this category. It is also equally clear that all such sites were not located by the survey. With many small sites defined by the observation of less than 10 artifacts using a very intense inspection during site recording (usually 5 m intervals transects), it is apparent that, with a greater intensity of surface inspection, many more small, ephemeral surficial sites could be located. However, it can be argued that, although it is important to find a valid sample of such specific activity sites, it is less important, and frankly, infeasible, to locate a number approaching 100 percent of the sample. Prehistoric foragers typically did not stockpile foods or other raw materials. Thus extractive locations associated with a base camp or village were normally short-term and numerous. Their archaeological manifestation is typically numerous, artifactually sparse, and often redundant (c.f. Binford 1980). Such sites are almost never considered eligible for the NRHP. Although an understanding of their distribution is important for the analysis of catchment or settlement patterns, individual sites rarely have site specific characteristics that would validate future research efforts.

- 3) Can site types (functions) be identified without more intense investigation?

Occasionally, site type can be defined in a survey, particularly with larger sites exhibiting numerous artifacts or features. But even with the relatively intensive site recordation of the present study, the function of most smaller sites could only be hypothesized in the most general and tentative sense, given the paucity of surface artifacts and the disturbance by agriculture. In the absence of identifiable features or a sizable assemblage of diagnostic artifacts, site typing must be based on site size and perceived artifact density.

Many archaeologists strive for the identification of site function to the point that it is determined by the questionable functional interpretation of a few lithic tools. This is somewhat reckless for two principal reasons: 1) individual tools frequently occur anomalously at sites representing a discard locale which does not coincide with the usage locale, and 2) identification of tool function is often done solely on the basis of morphological characteristics of a few artifacts without use-wear analysis. Such analogous reasoning is often incorrect.

4) Can site types (functions) be correlated with particular topographic variables?

The present study can offer little in the way of additional information other than the discussion of topography concerning the predictive model above. Presumably, special function sites can be correlated with specific extractive resources, some of which might be associated with specific physiographic or topographic situations. But as site function was rarely specific at this level of investigation, such associations were not apparent.

5) What catchment areas were required to support different types and sizes of sites?

Because of the large degree of sites in the area that are presumably deeply buried by alluvium, and the relatively few sites whose components have been accurately dated, it is not feasible to make realistic assessments of catchment area. In the planning stages of this project, it was hoped that a greater proportion of buried sites would be located utilizing shovel testing and augering as well as examination of cutbanks. Unfortunately, shovel testing and augering are too shallow to sample deeper deposits and the drainages in the area generally lack sufficiently steep entrenchment to produce many vertical cutbanks that lend themselves to profile analysis.

RECOMMENDATIONS FOR FUTURE INVESTIGATIONS

Other than the site-specific recommendations discussed in Chapter V and summarized above, some specific research goals for future research as well as methodologies for achieving these goals are advanced.

A great weakness of research in the Melvern Lake area is the general poor understanding of the paleotopography of the project area. A recommended goal for future research to obtain a clearer understanding of depositional history of the project area. Accurate dating of specific soil formations which occur in the project area would greatly expand our prediction and diagnostic capability with regard to cultural resources. Potential locations for deeply buried cultural resources could be better identified. Additionally, site locations could be dated geologically with greater accuracy. A second recommended goal, which very logically follows the first, is the investigation of locations exhibiting a greater potential for buried resources. Except for the buried Late Archaic/Early Ceramic component identified by Schmits (1988) at Site 14LY414, almost no buried cultural components, not heavily impacted by agriculture, have been located in the project area.

The recommended methodology for accomplishing these goals is a detailed geomorphological analysis of the greater Marais des Cygnes valley. A series of intermittent backhoe trenches dissecting the floodplain (T-0 and T-1 terraces of the river and its major tributaries) and radiocarbon analysis of soil humate samples from geologic units could provide detailed information on depositional history. Locations where older deposits are buried can be distinguished from those locations where older deposits have been scoured by later depositional regimes. The second phase of this program is the more intense investigation of high probability areas through the use of further trenching, or possibly hand excavations or coring where potential buried cultural strata is relatively shallow.

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GLOSSARY

- aboriginal:** Original inhabitant; native American.
- archaeology:** The subdivision of anthropology which deals with cultural history.
- argillic:** referring to a soil horizon which contains a larger percentage of clay than underlying or overlying soil horizons.
- artifact:** Object manufactured or altered by man. The alteration may be either by intent or by usage.
- Archaic:** A general chronological and cultural stage of prehistoric North American Indians, following the Paleo-Indian and preceeding the Late Prehistoric, dating to ca 8000-2000 BP in Kansas.
- assemblage:** A collection of artifacts from a particular component, site, or group of sites.
- attribute:** Any quality of aspect of material remains. It is the smallest unit of archaeological analysis.
- band:** In hunter-gatherer society, a small group, usually made up of a few nuclear families.
- barb:** A flaring projection on the lateral margin of a projectile point (usually near the base) which slants in a direction from the distal toward the proximal end.
- biface:** Artifact bearing flake scars along the margins of both sides.
- chert:** A hard, fine-grained crystalline siliceous rock formed in limestone and commonly used to manufacture prehistoric implements.
- core:** An artifact of chert or other raw material from which large flakes were removed which could be fashioned into tools. It typically exhibits multiple large flake scars.
- cortex:** Natural surface or rind of stone nodule or cobble that has been exposed to weathering; or remnant of such a surface on a stone tool.
- cultural chronology:** Description of the distinctive characteristics of humans occupying a specific geographic area through time as reflected in the archaeological record.
- data:** Information.
- daub:** a plaster of dried clay used to cover an interwoven thatchwork of poles and branches in prehistoric building construction.
- debitage:** Remnant unmodified lithic material resulting from tool manufacture.
- eared:** exhibiting rounded flared basal corners that extend past the limits of the blade edge.
- ephemeral drainage:** a stream which flows only during the period immediately following a rainfall and is dry for the majority of the year.
- exhausted:** With regard to a lithic tool, used up; reduced by attrition and resharpening to the point that it is too small to be functional.
- flake:** A piece of stone removed from a larger mass by the application of force (either intentional, accidentally, or by nature) and having a striking platform and bulb of force at the proximal end.
- functionally diagnostic:** An artifact or feature capable of providing information concerning function, and by extrapolation, activities which took place at a location.
- gleyed:** referring to a soil horizon formed under conditions of excessive moisture. It is usually bluish-gray in color, compact and often structureless.
- GLO map:** map made by the General Land Office from the original survey of Federal lands in the central and western United States.
- haft:** To attach a stone artifact to a wooden handle or shaft.

- hammerstone:** A stone used for striking in lithic manufacture, usually identified by pitting of the surface at the impact area.
- humate:** soils containing organic material.
- hypothesis:** An assumption or speculation which can be tested.
- in situ:** In original position. Normally referring to undisturbed artifacts, cultural features, or depositional layers.
- Laurentide ice sheet:** the last major glacier effecting central North America at the end of the Pleistocene epoch.
- lithic:** Stone, or pertaining to stone such as a tool made of stone.
- mano:** a hand-held stone which, when coupled with a larger metate for a base, is used for grinding foodstuffs.
- metate:** A large relatively flat or concave stone used, in conjunction with a mano, for grinding or pulverizing, usually in the preparation of plant foodstuff.
- midden:** The archaeologically recognized remnant of a refuse dump, usually consisting of artifacts intermixed with soil.
- ocher:** A soft fragment of the minerals hematite or limonite sometimes used by prehistoric inhabitants for drawing or coloring.
- Paleo-Indian:** The earliest identified stage of North American Indian chronological, dating from ca. 12,000 to 8000 BP in Kansas.
- paleotopography:** the physical features of an area as they existed during a past period.
- polygenetic:** originating or formed from different parent material
- preform:** To modify an artifact, usually by direct percussion as an initial stage in the manufacturing process.
- prehistoric:** Human culture which existed prior to written records.
- primary deposition:** The deposition of archaeological debris in the context where they were used and discarded.
- projectile point:** A stone tool capable of being hafted which had been worked distally to form a point sufficient for use as the tip of a projectile.
- raw material:** Stone material suitable for lithic manufacture that is in a natural state.
- salients:** amphibian of the order Salientia, including frogs and toads, which have a tail during their early development but lose it in adulthood.
- secondary deposition:** Deposition of archaeological debris away from the immediate area of use, either by cultural or natural processes.
- settlement pattern:** Way in which human groups occupy the landscape as a reaction to other groups and availability of natural resources.
- sherd:** a fragment of a ceramic vessel. Also referred to as potsherd.
- site:** A location of past cultural activity.
- slickenslides:** polished or grooved surfaces resulting from one mass sliding past another. In soils, slickenslides are usually the result a marked change in moisture content.
- stem:** A longitudinal projection from the base of a projectile point or tool by which the tool can be hafted.
- stratigraphy:** An analytical interpretation of the structure produced by deposition of cultural sediments into layers or strata.
- temporally diagnostic:** Indicative of a specific time period.
- thinning flakes:** Small flakes removed from a point or tool to reduce thickness.

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tool kit: A spatially or functionally patterned group of tools or artifacts.

truncated: Broken to formed an abrupt termination like a stump.

turbation: processes of disturbance which affect geological or archaeological deposits.

type: A class of artifacts that share a specific set of traits or attributes thought to represent a particular culture or time-period.

typology: Classification of stone artifacts that is based on recognizable prehistoric patterns

uniface: A chipped stone tool which has been flaked on the margins of one face.

urodeles: amphibians of the order Caudata such as newts which retain a tail throughout life.